

Knowledge Management and High Performance

How do High Performance Enterprises manage their Intellectual Capital in Germany?

The World Conference on Intellectual Capital for Communities

**May 31, June 1st, 2012
World Bank Paris Office,**

**Univ.-Prof. Dr. Peter Pawlowsky,
Aylin Gözalan, M.A
Institute for Personnel Management and Leadership Studies
Chemnitz University of Technology**



Bundesministerium
für Wirtschaft
und Technologie



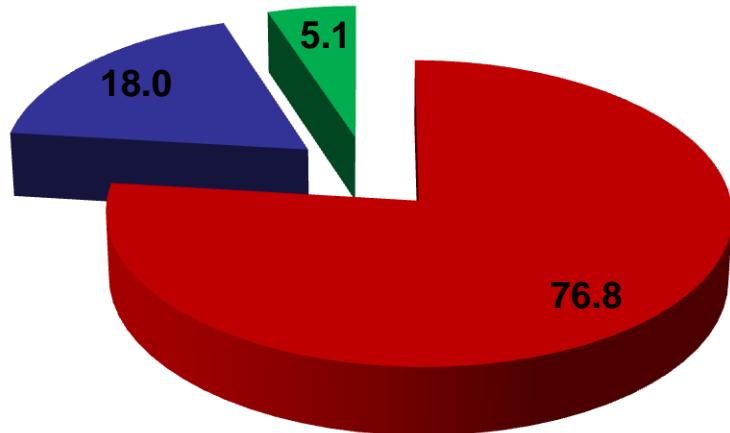
Representative Sample of German Companies



n = 3401 Organisations

Sample 2010-2012

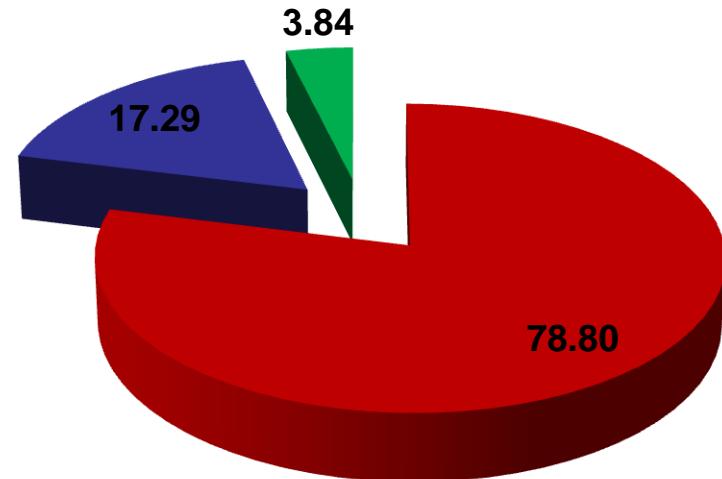
Sample distribution: Company size



■ 10 - 49 MA ■ 50 - 249 MA ■ 250 und mehr MA

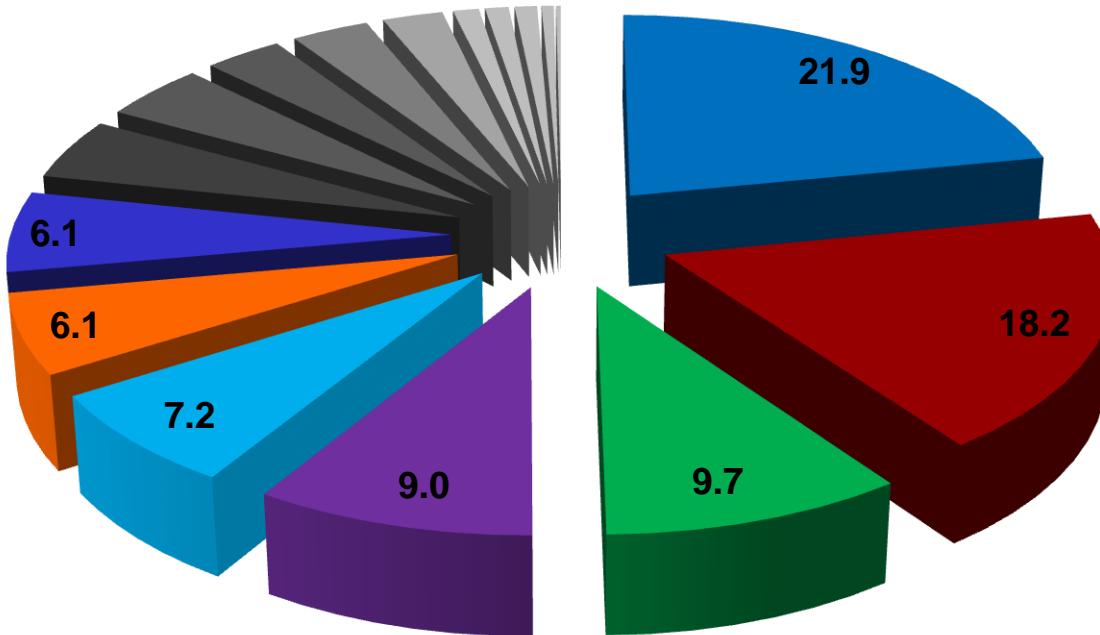
n=3401

Basic population: Company size



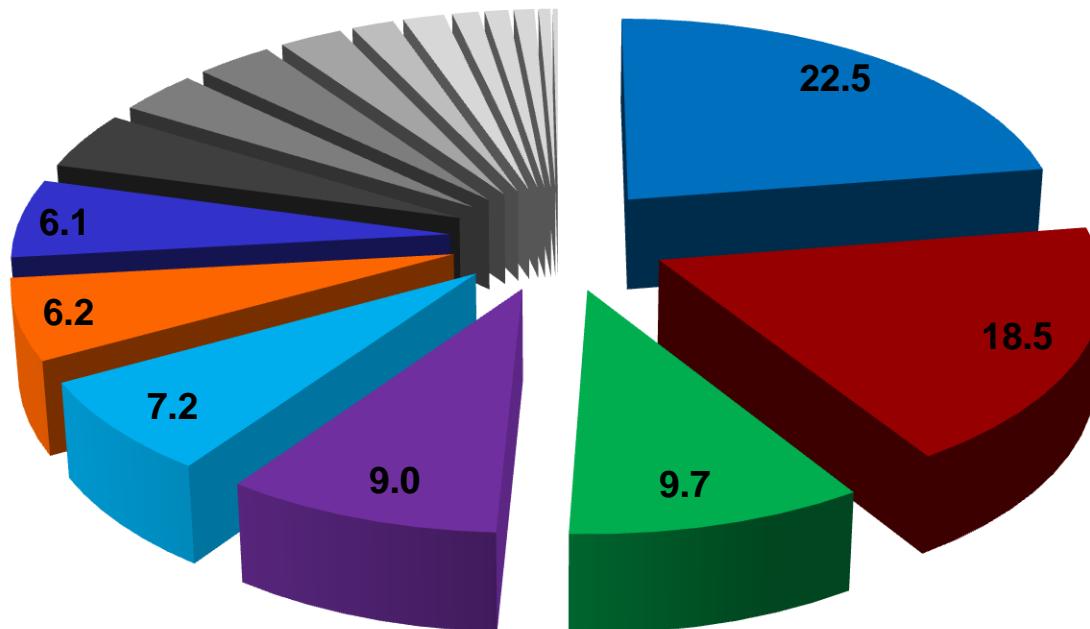
■ 10-49 MA ■ 50-249 MA ■ 250 und mehr MA

Industry and service sectors in German basic population



- Handel; Instandhaltung und Reparatur von Kfz.
- Verarbeitendes Gewerbe
- Gesundheits- und Sozialwesen
- Baugewerbe
- Erbringung von freiberuflichen, wissenschaftlichen, Verkehr und Lagerei
- Erbringung von sonstigen wirtschaftlichen Dienstleistungen
- Erziehung und Unterricht
- Gastgewerbe
- Erbringung von sonstigen Dienstleistungen
- Information und Kommunikation
- Erbringung von Finanz- und Versicherungsdienstleistungen
- Wasserversorgung etc.
- Grundstücks- und Wohnungswesen
- Kunst, Unterhaltung und Erholung
- Energieversorgung
- Bergbau und Gewinnung von Steinen und Erden

Industry and service sectors in sample



- Handel; Instandhaltung und Reparatur von Kraftfahrzeugen
- Verarbeitendes Gewerbe
- Gesundheits- und Sozialwesen
- Baugewerbe
- Erbringung von freiberuflichen, wissenschaftlichen und technischen Dienstleistungen
- Verkehr und Lagerei
- Erbringung von sonstigen wirtschaftlichen Dienstleistungen
- Gastgewerbe
- Information und Kommunikation
- Erbringung von sonstigen Dienstleistungen
- Erbringung von Finanz- und Versicherungsdienstleistungen
- Land- und Forstwirtschaft, Fischerei
- Erziehung und Unterricht
- Wasserversorgung etc.
- Grundstücks- und Wohnungswesen
- Bergbau und Gewinnung von Steinen und Erden

also....excellent sample distribution with regard to sectors

n=3401

■ Bergbau und Gewinnung von Steinen und Erden

Research Model KM 2012



Determinants

Personnel- / HR management

Market challenges

Environmental-/Market dynamics

Business strategy

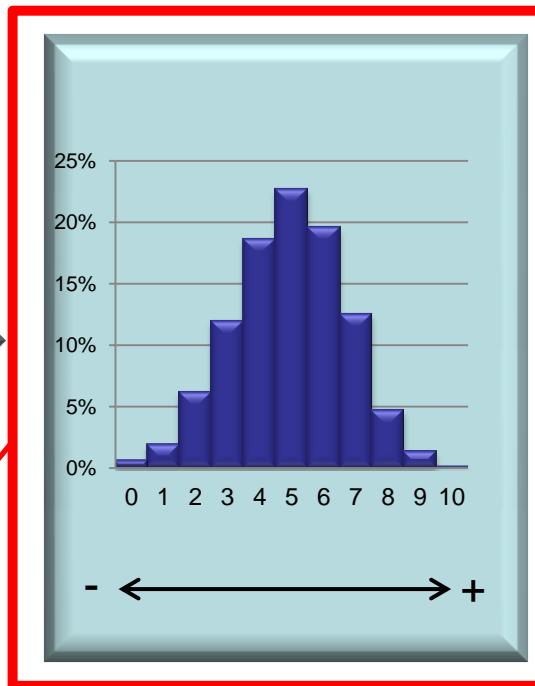
Perceived KM Instrumentality

Holistic KM-Strategy

Company size/
Line of business

Quality-management

KM Activities



Performance/Success Factors

Employee motivation

Innovative capabilities

Competitiveness

Economic performance

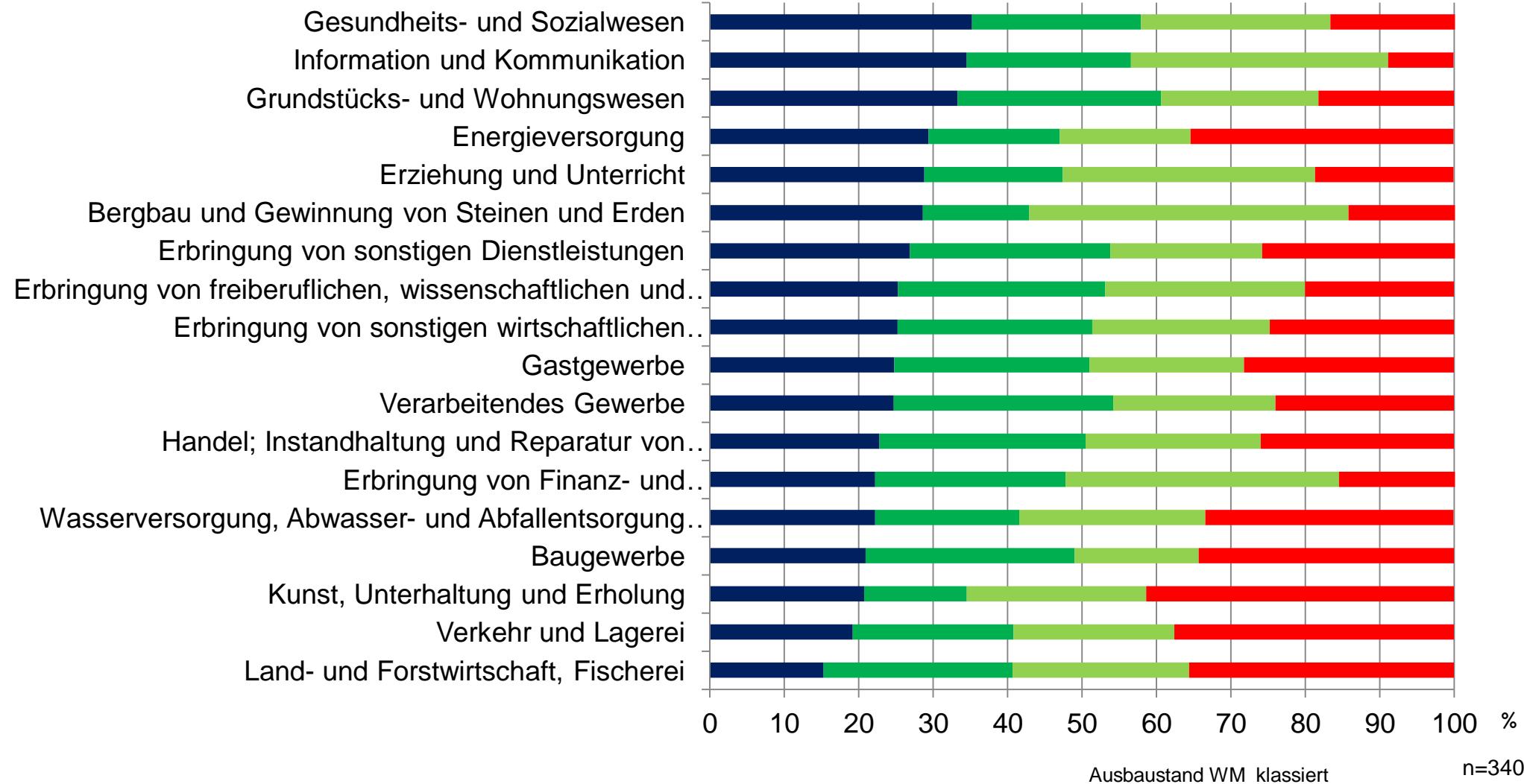
Basel II ratings/
credibility ratings

KM-Activities and Line of Business



■ Hoher WM-Ausbaustand

■ Niedriger WM-Ausbaustand

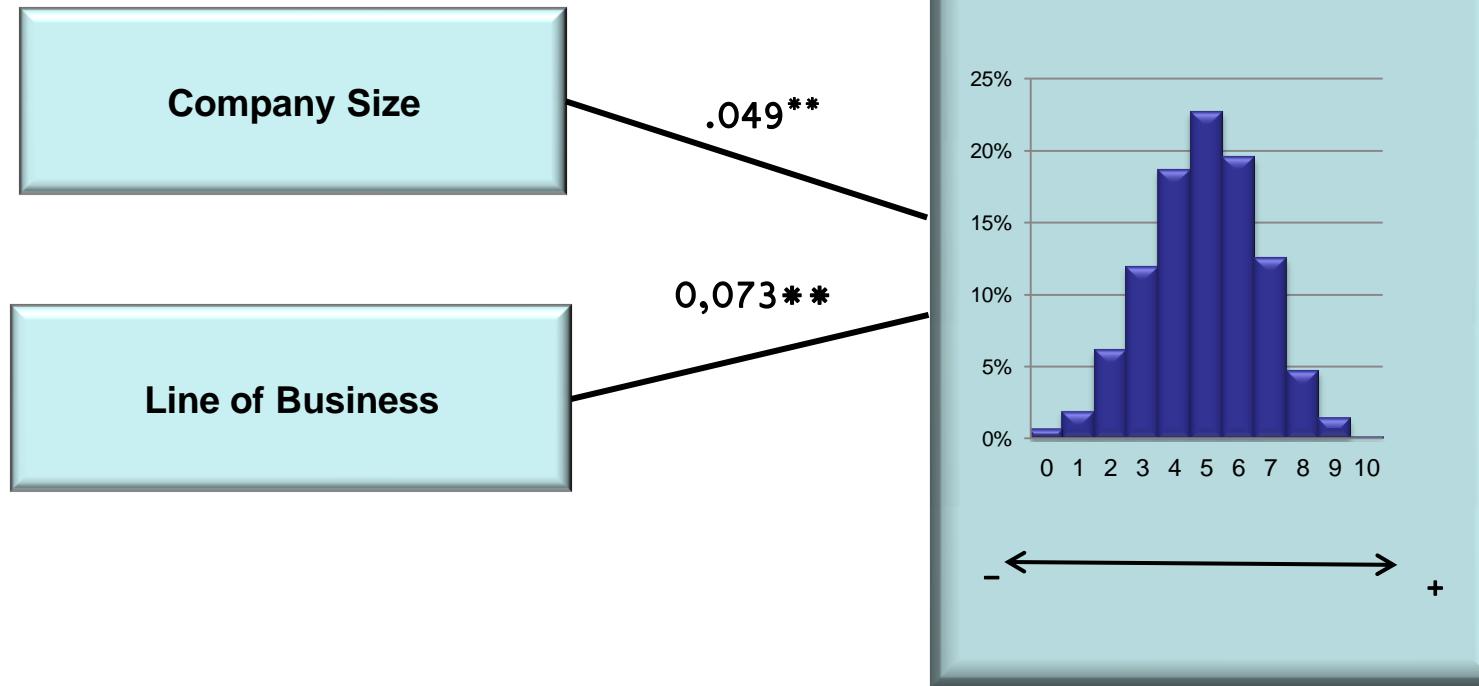


0 10 20 30 40 50 60 70 80 90 100 %

Ausbaustand WM klassiert

n=3401

KM-Activities and Company Size/Line of Business



n = 3401 korr R²: .072

Research Model KM 2012



Determinants

Personnel- / HR management

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Business strategy

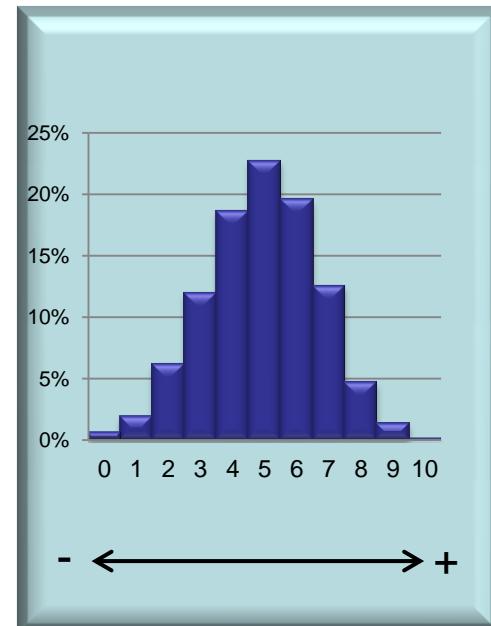
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KM Activities



Performance/Success Factors

Employee motivation

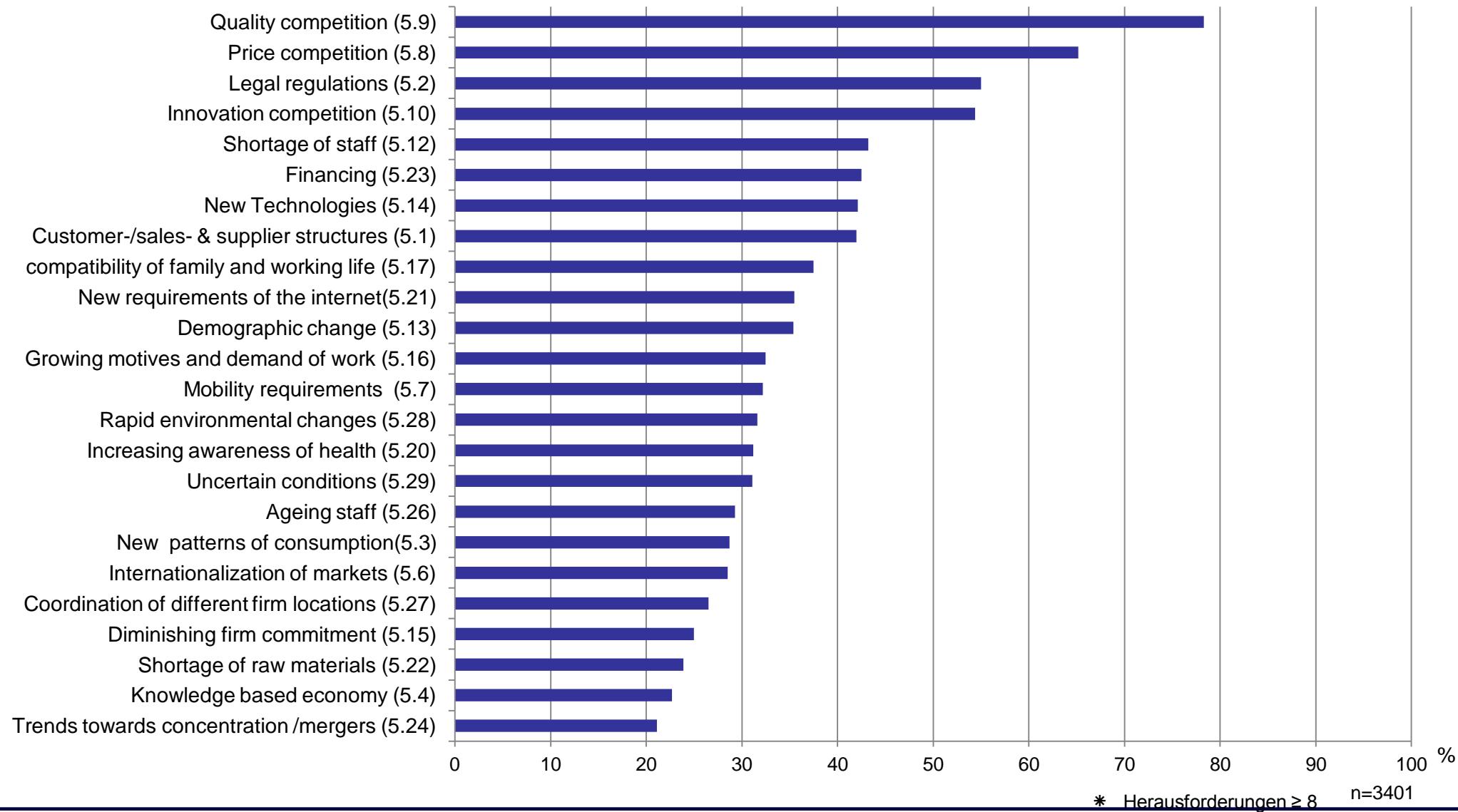
Innovative capabilities

Competitiveness

Economic performance

Basel II ratings/
credibility ratings

Perceived market challenges (German companies)



Research Model KM 2012



Determinants

Personnel- / HR management

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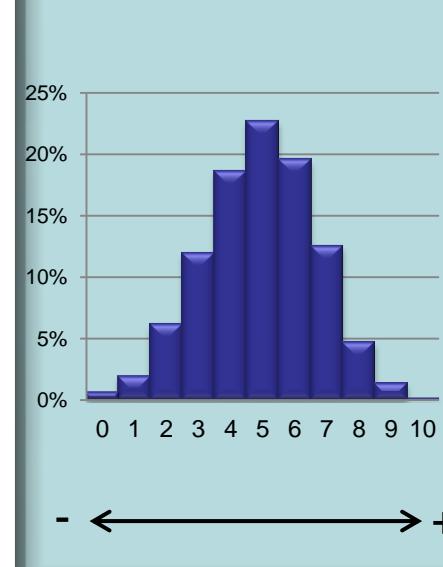
Perceived KM Instrumentality

Holistic KM-Strategy

Company size/
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Quality-management

KM Activities



Performance/Success Factors

Employee motivation

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Competitiveness

Economic performance

Basel II ratings/
credibility ratings

KM Activities and perceived market challenges



Knowledge based economy

.436**

Innovation competition

.387**

Heterogeneous work force

.371**

Health Issues

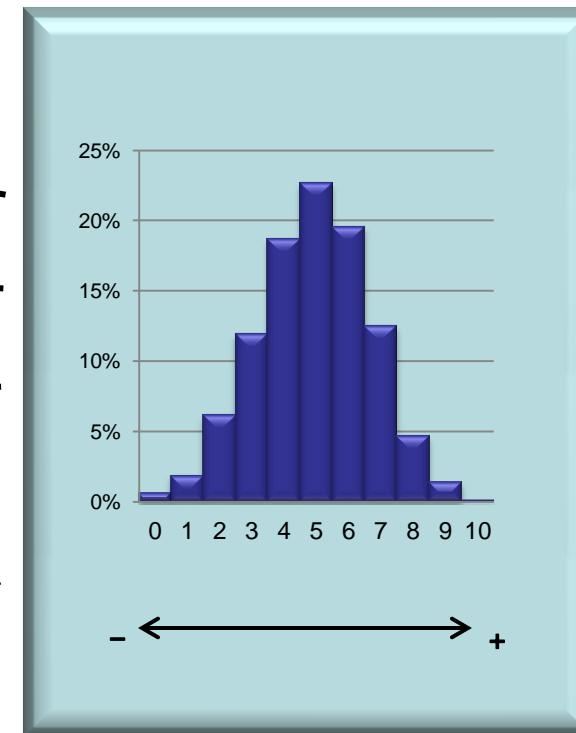
.361**

Speed of environmental changes

.359**

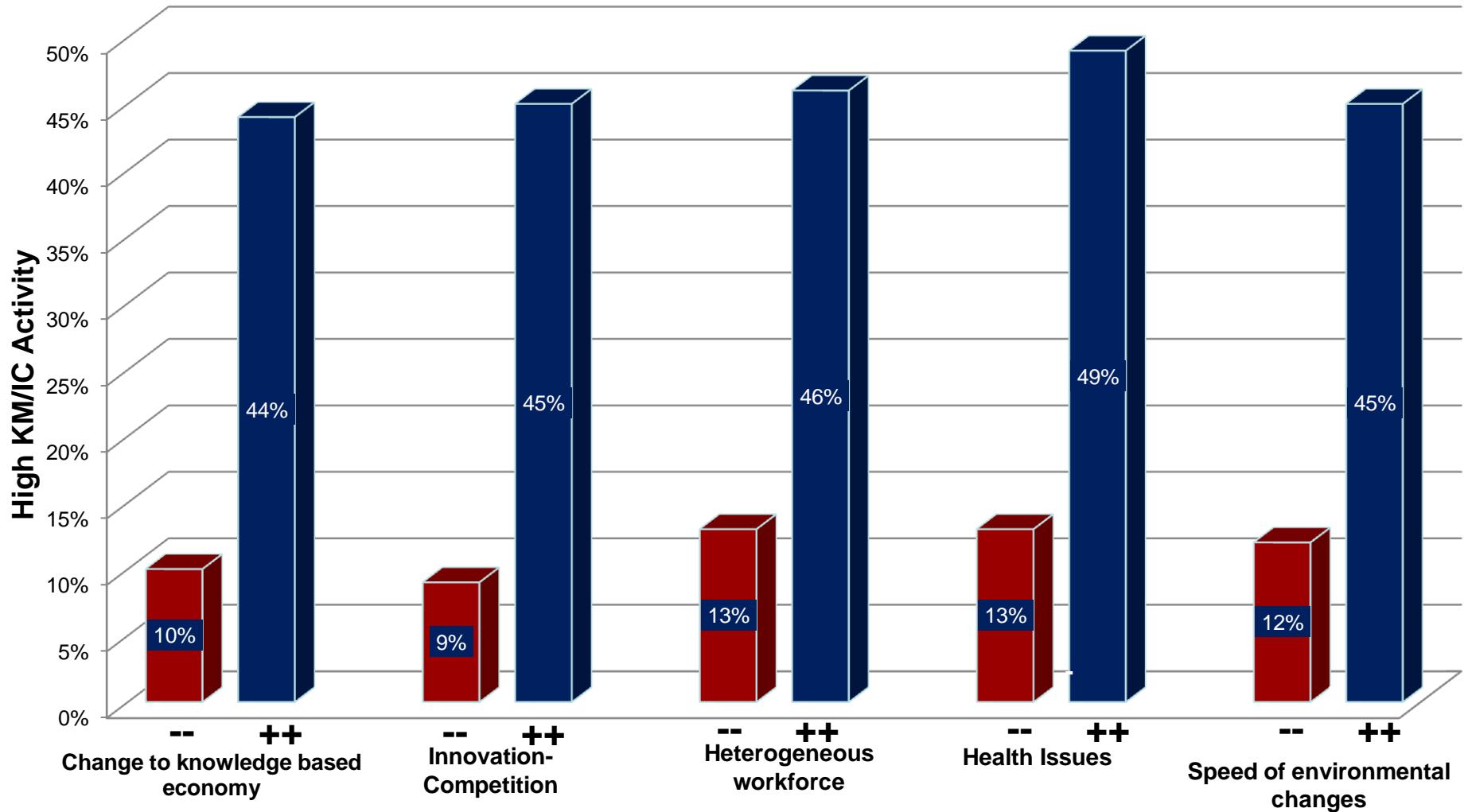
Increasing employee demands

.349**



n=3401

High KM/IC activity-index and perceived market challenges



n=3401

Research Model KM 2012



Determinants

Personnel- / HR management

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Environmental-/Market dynamics

Business strategy

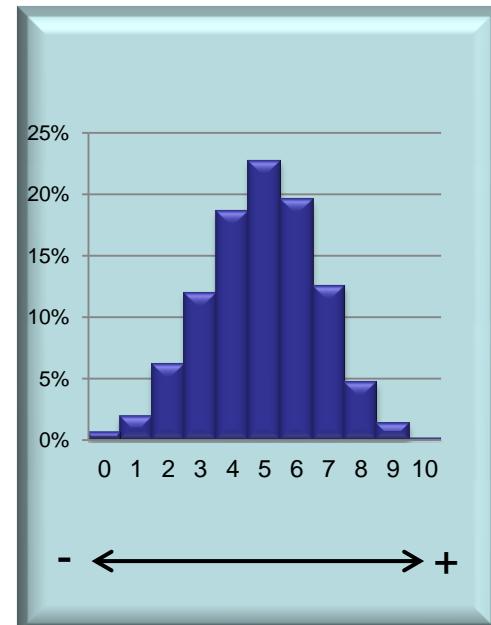
Perceived KM Instrumentality

Holistic KM-Strategy

Company size/
Line of business

Quality-management

KM/IC activities



Performance/Success Factors

Employee motivation

Innovative capabilities

Competitiveness

Economic performance

Basel II ratings/
credibility ratings

Business Strategy (core competencies) in German companies



Competitive advantages compared to main competitors

- Higher Customer satisfaction (6.20)
- Close customer contact (6.22)
- Higher Quality (6.10)
- Firm flexibility (6.21)
- Well established & professional teams (6.2)
- Loyalty and motivation of employees (6.7)
- Identification/ implementation of customer demands (6.1)
- Better Know-how (6.18)
- Individual - customized solutions (6.14)
- Better employee competences (6.6)
- Qualified management/leadership competences (6.29)
- Use of corporate knowledge (6.16)
- Creative employees(6.23)
- Better networks/contacts
- Faster development of new offers (6.11)
- Technichal maturity of products and services(6.8)
- Higher learning abilities of employees (6.3)
- Shorter delivery times (6.15)
- Cross-divisional working groups(6.24)
- More innovative products (6.12)
- Professional human resources work (6.28)
- Better project management competences (6.25)
- Systematic market observation (6.26)
- Low production costs (6.13)
- Favorable prices (6.9)

%

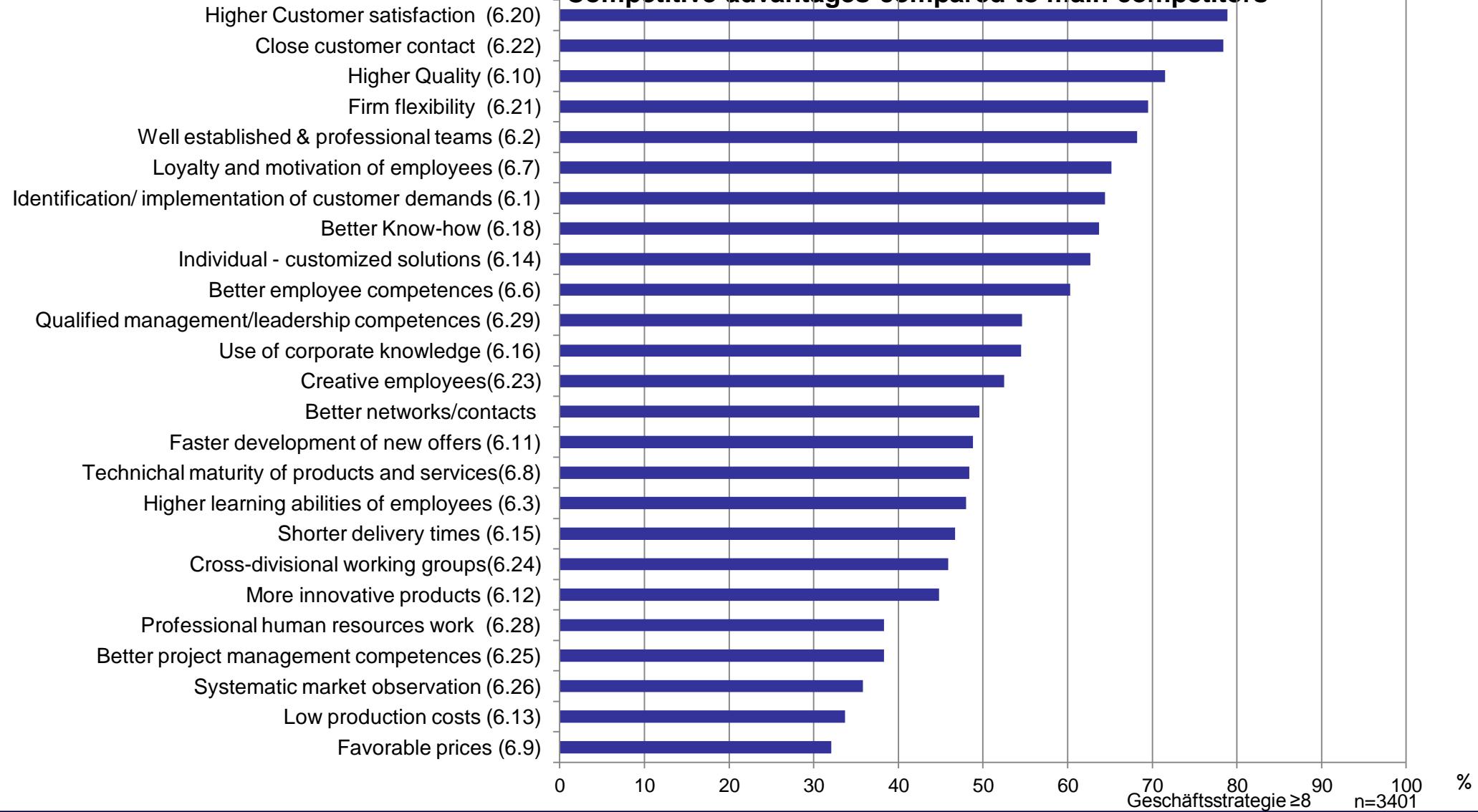
Geschäftsstrategie ≥8

n=3401

Business Strategy (core competencies) in German companies



Competitive advantages compared to main competitors



Research Model KM 2012



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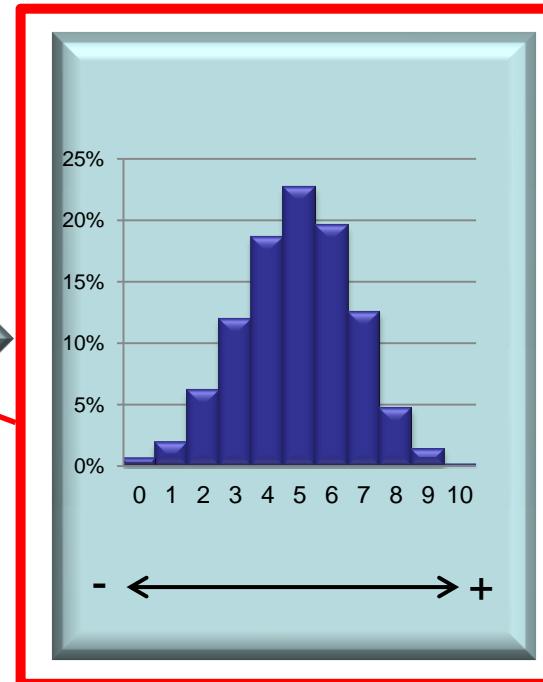
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Performance/Success Factors

Employee motivation

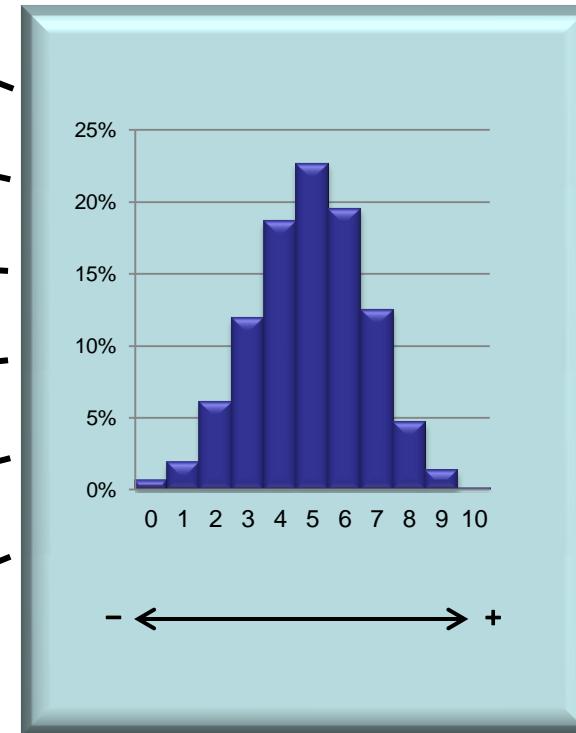
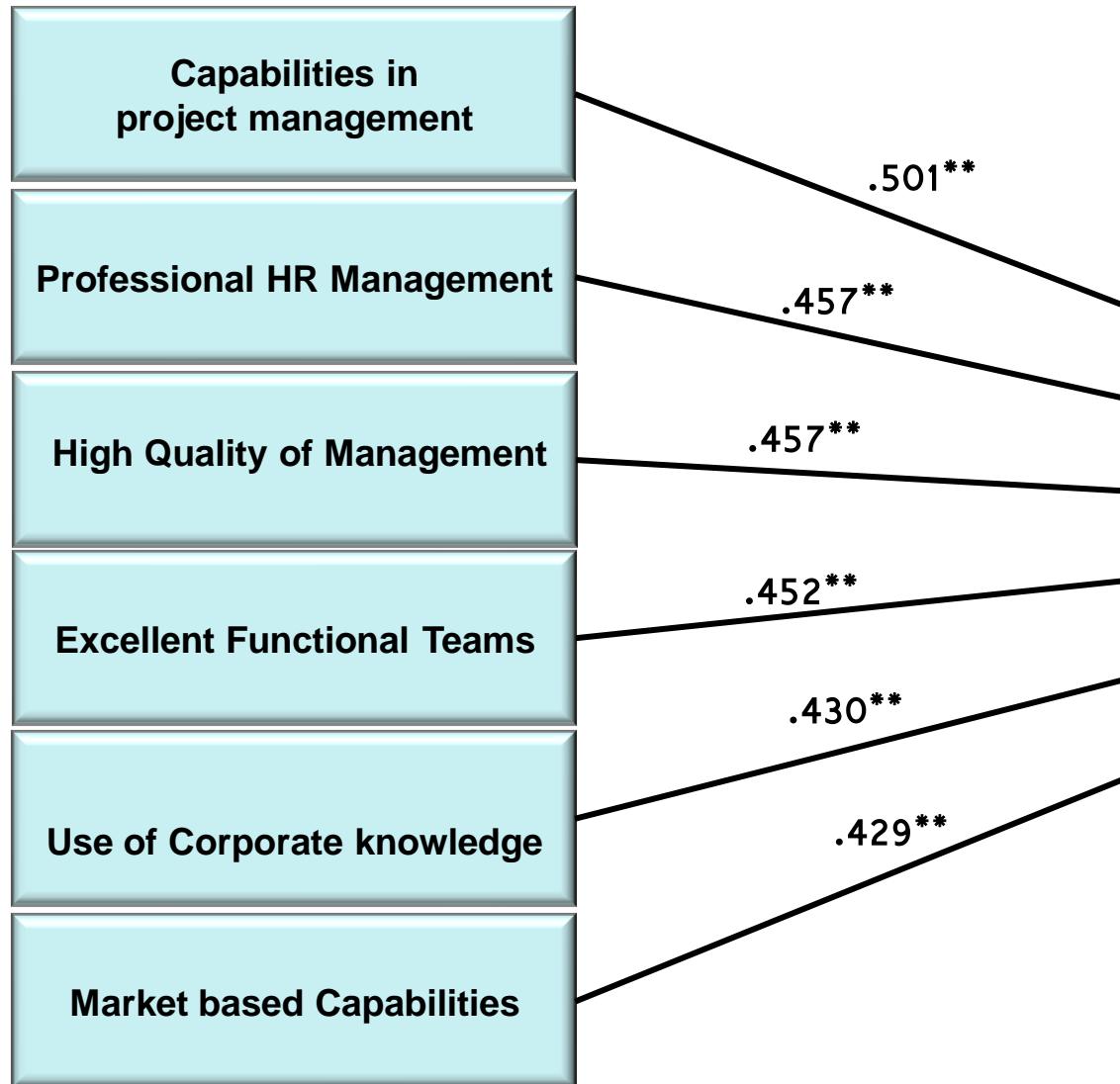
Innovative capabilities

Competitiveness

Economic performance

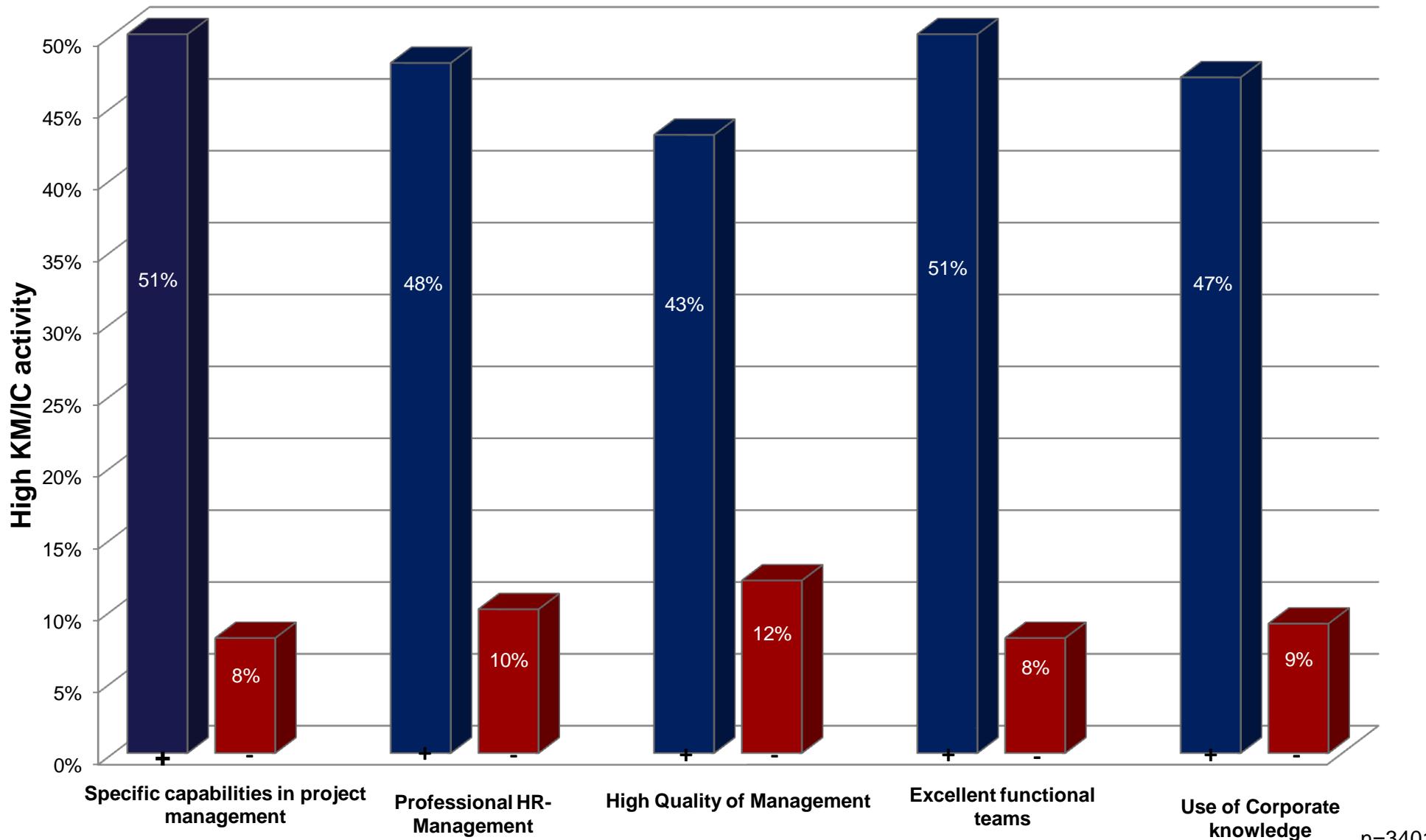
Basel II ratings/
credibility ratings

KM/IC-activities and business strategy (competitive advantage)



n=3401

High KM/IC activity-index and business strategy



n=3401

Factor Analysis – Business Strategy (Core Competence)



Rotierte Komponentenmatrix^a

	Komponente			
	1	2	3	4
6.22 Einen besonders engen Kundenkontakt	,838			
6.20 Besondere Kundenzufriedenheit	,787			
6.21 Wandlungs- und Anpassungsfähigkeit des Unternehmens/Flexibilität	,691			
6.1 Bessere Fähigkeit, Kundenbedürfnisse zu erkennen und umzusetzen	,561			
6.7 Höhere Motivation und Loyalität der Mitarbeiter		,816		
6.6 Mitarbeiter mit besseren Kenntnissen und Fähigkeiten als der Wettbewerber		,811		
6.3 Höhere Lernfähigkeit der Mitarbeiter		,767		
6.12 Innovativere Produkte			,879	
6.11 Schnellere Entwicklung neuer Angebote			,786	
6.9 Günstigere Preise als die Hauptkonkurrenz				,879
6.13 Geringe Produktionskosten				,764

Customer oriented strategy
 $\alpha = .831$

HRM-strategy
 $\alpha = .832$

Innovation-strategy
 $\alpha = .777$

Cost-strategy $\alpha = .657$

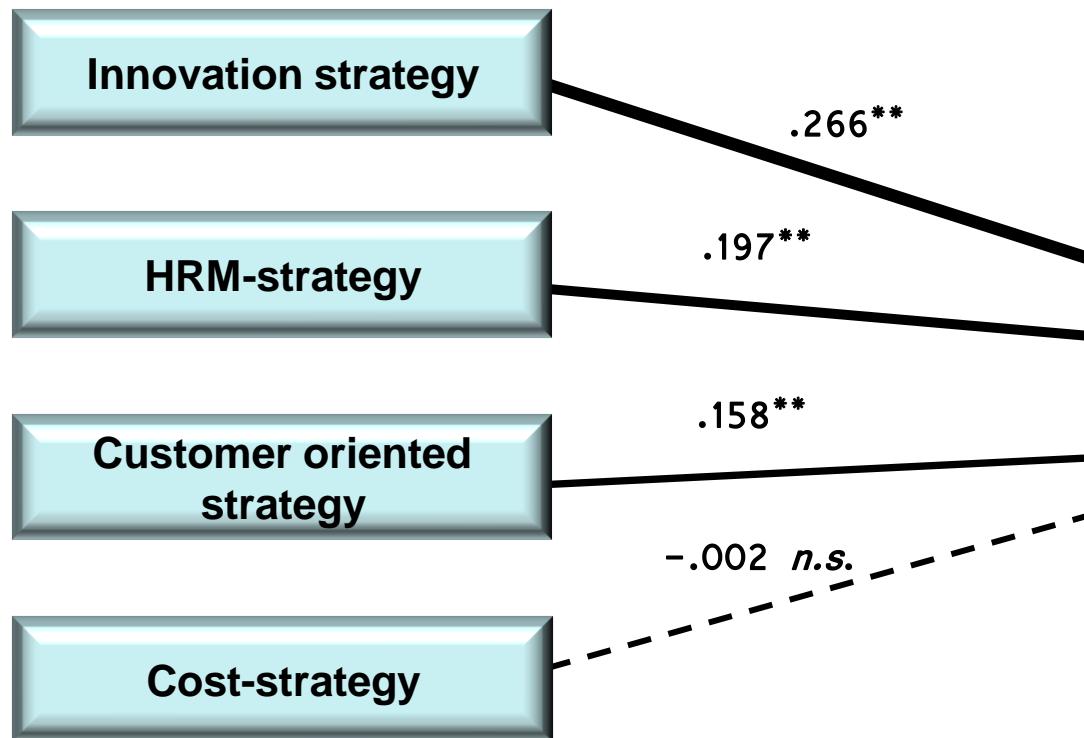
Extraktionsmethode: Hauptkomponentenanalyse.
 Rotationsmethode: Varimax mit Kaiser-Normalisierung.

a. Die Rotation ist in 6 Iterationen konvergiert.

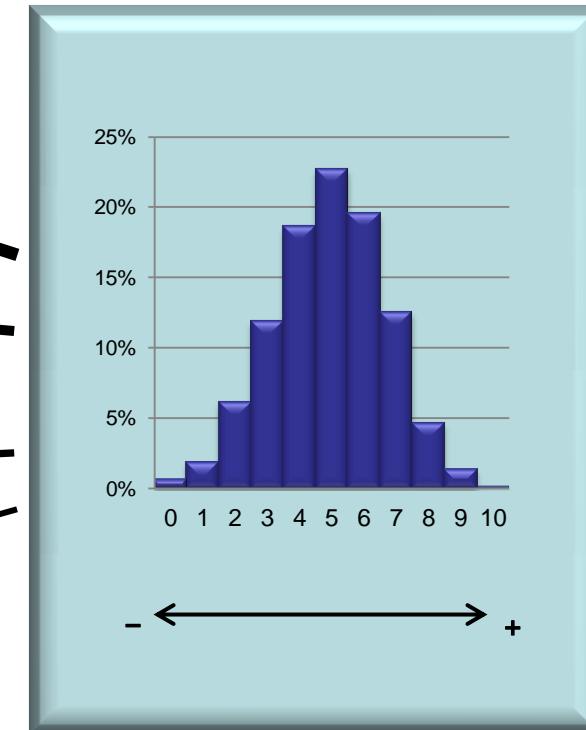
KM activities and business strategy (Regression)



Business strategy

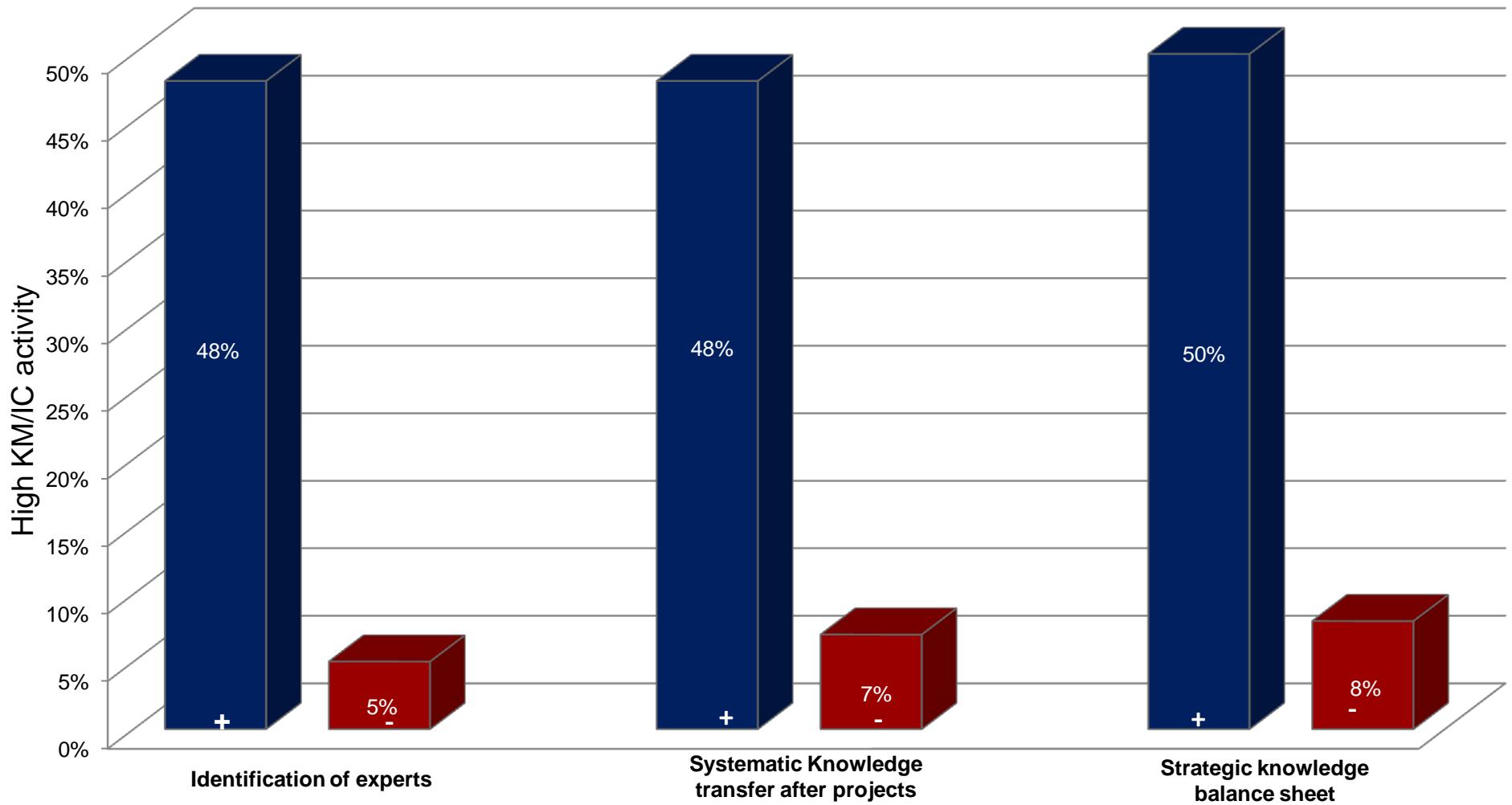


KM Activities



n = 3401 korr. R² = .259

KM/IC activities and perceived instrumentality



n=3401

Research Model KM 2012



Determinants

Personnel- / HR management

Market challenges

Environmental-/Market dynamics

Business strategy

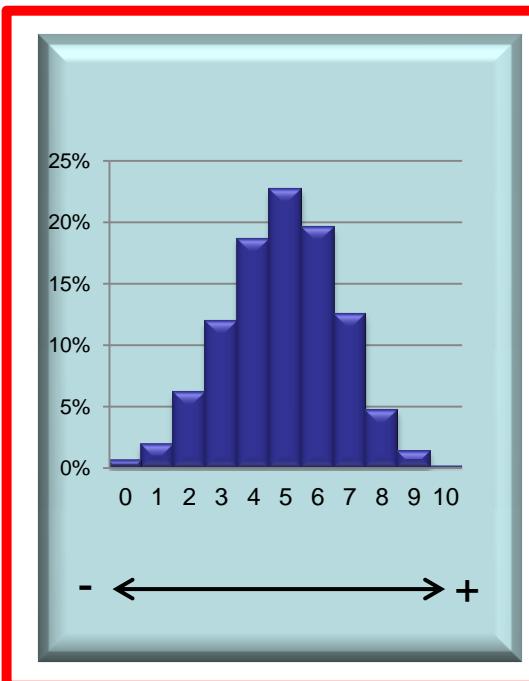
Perceived KM Instrumentality

Holistic KM-Strategy

Company size/
Line of business

Quality-management

KM/IC activities



Performance/Success Factors

Employee motivation

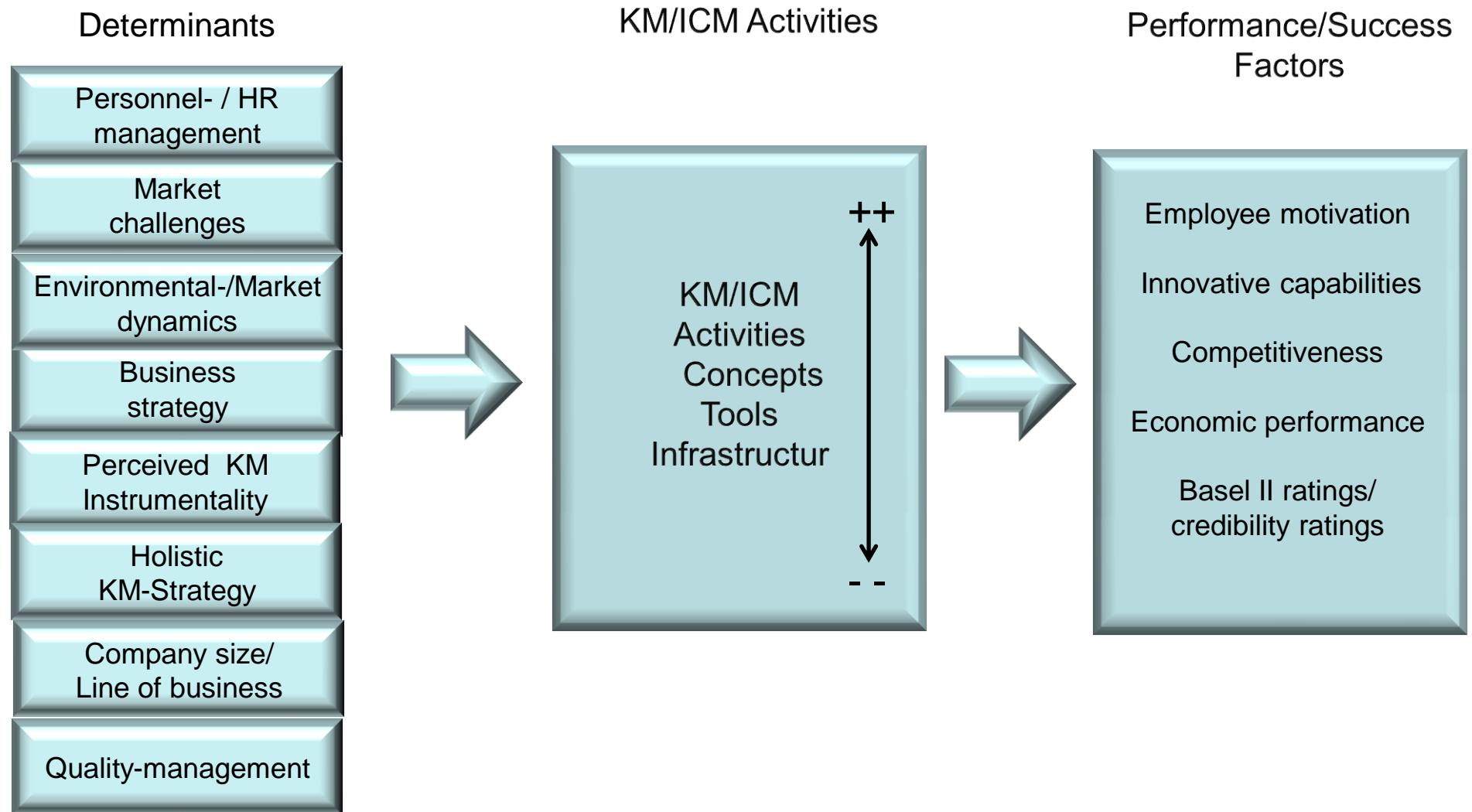
Innovative capabilities

Competitiveness

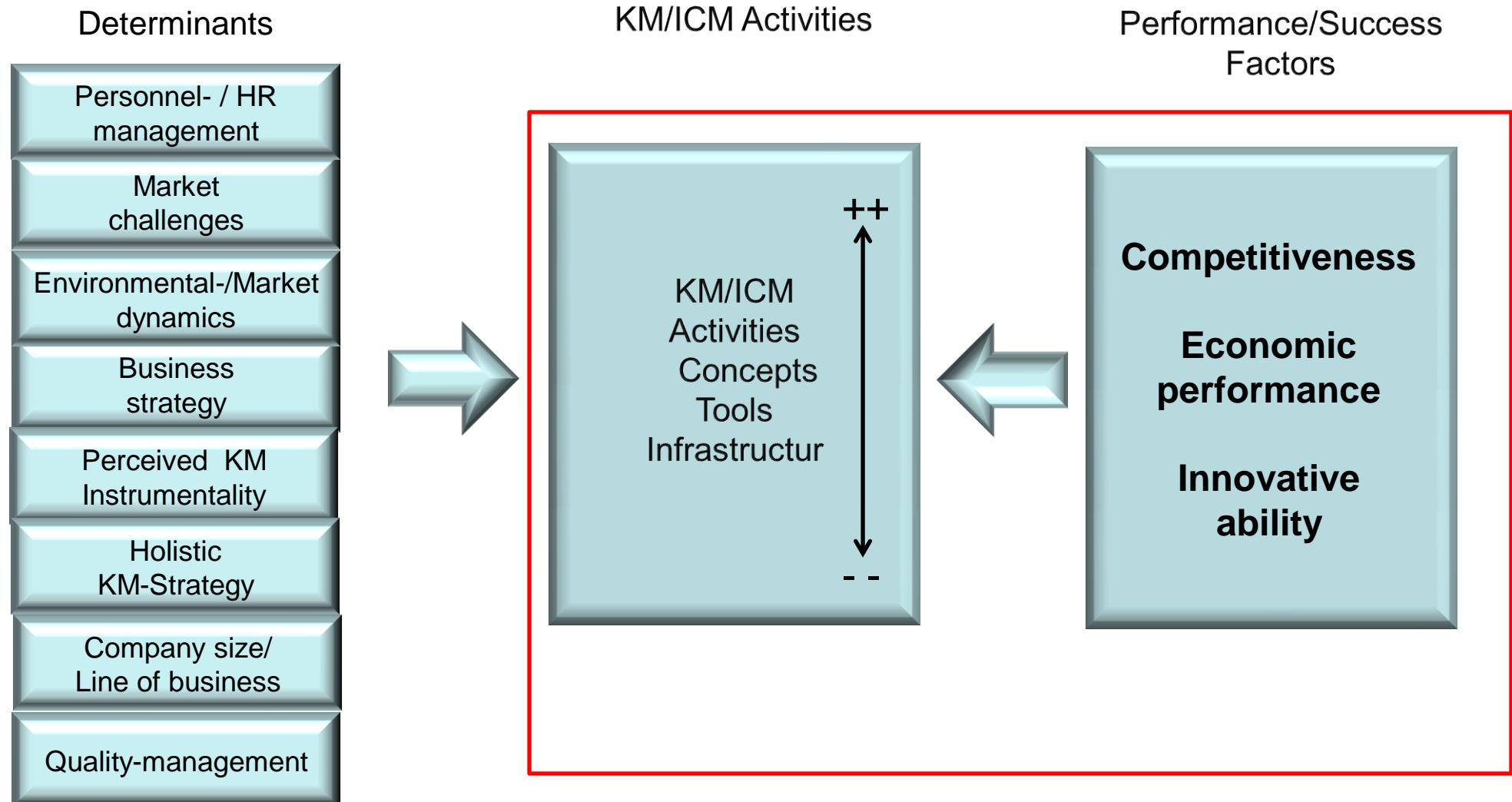
Economic performance

Basel II ratings/
credibility ratings

Research Model IC Management 2012



Research Model IC Management 2012



High Performance enterprises?



High Performance
enterprises

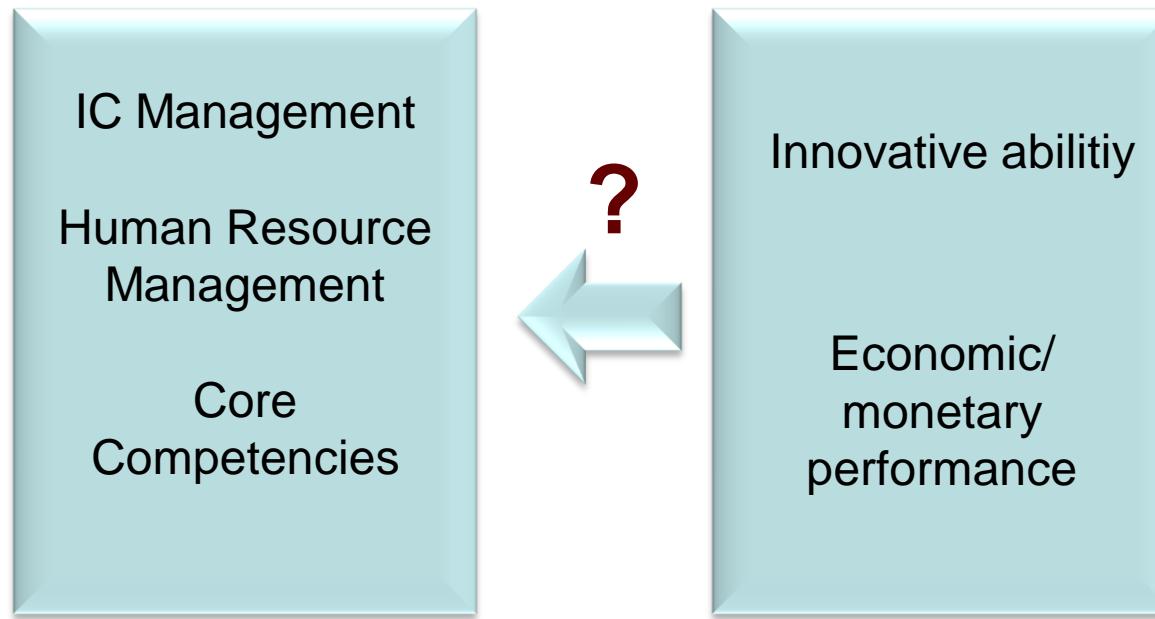
High Performance enterprises?



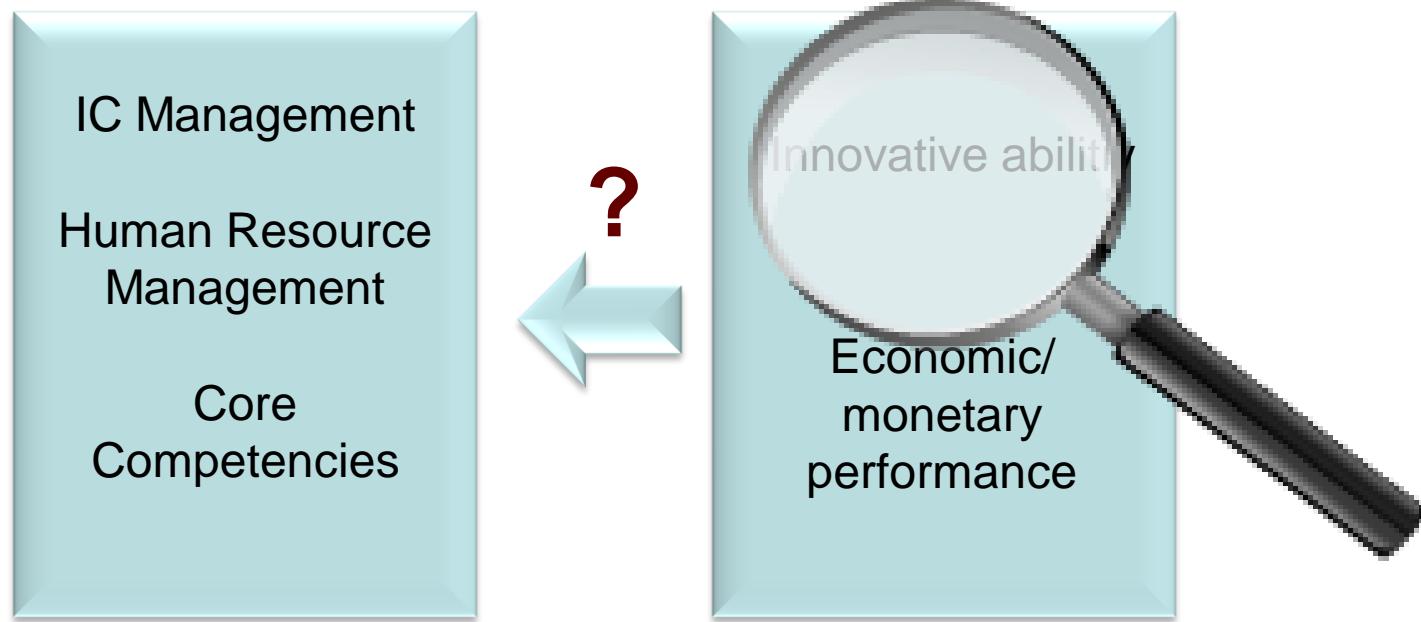
Innovative ability

Economic/
monetary
performance

Characteristics of High Performance enterprises?



Innovative ability?



Innovative ability?



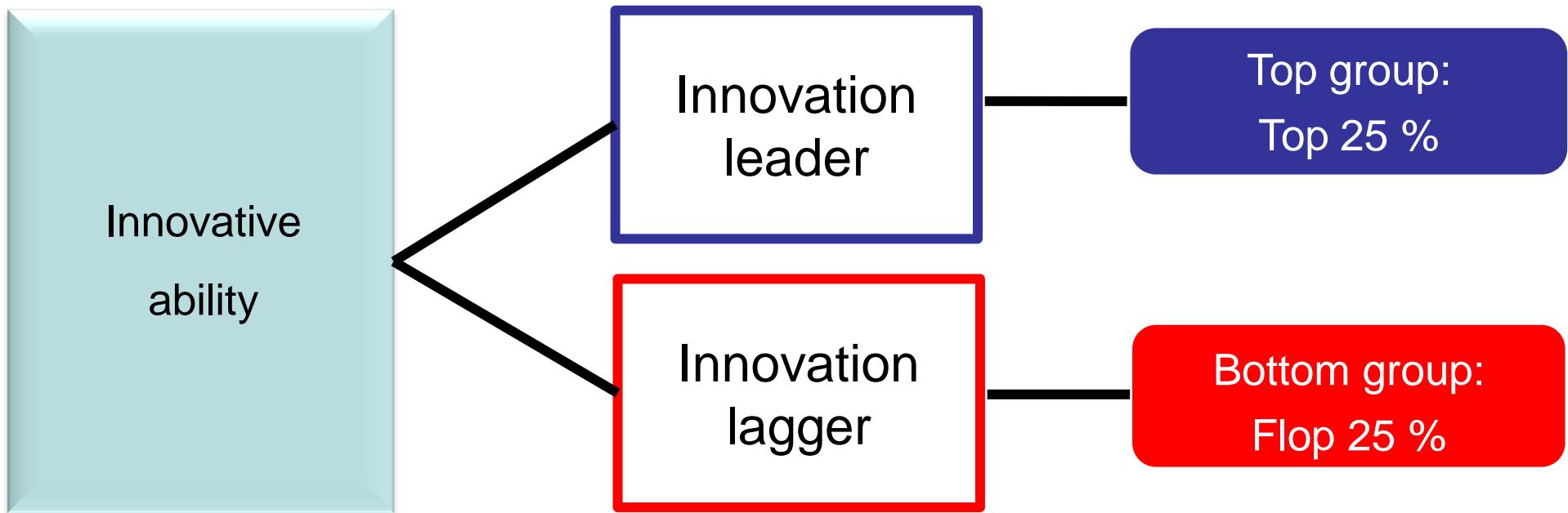
Innovative ability

... process innovation

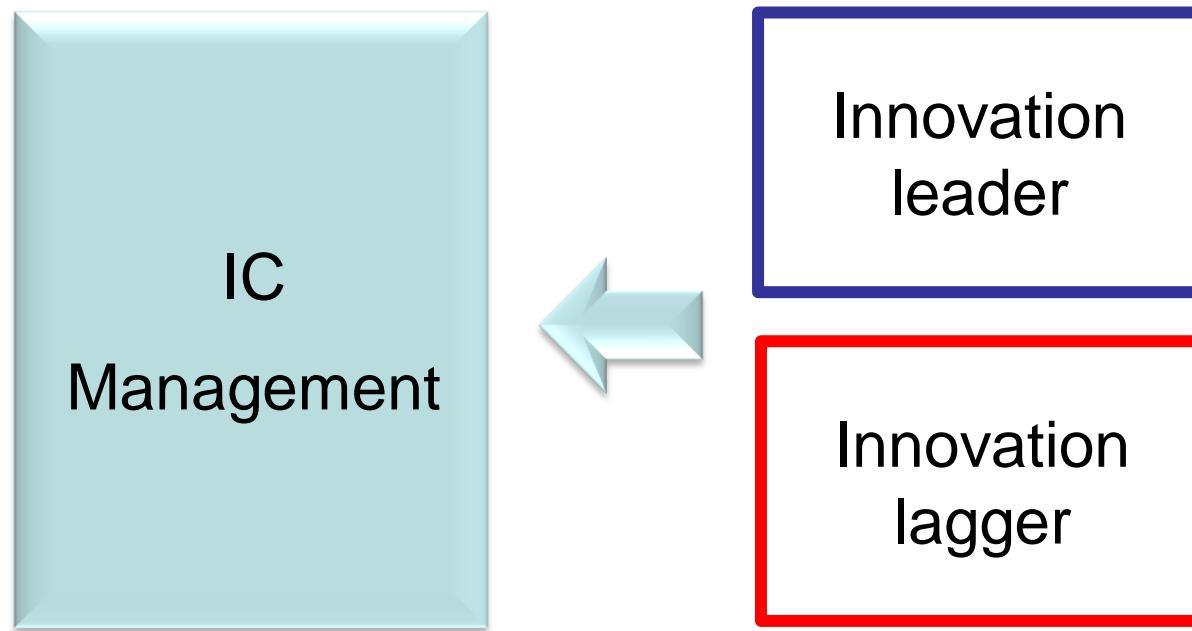
... product innovation

... innovative management

Innovation leader and Innovation lagger

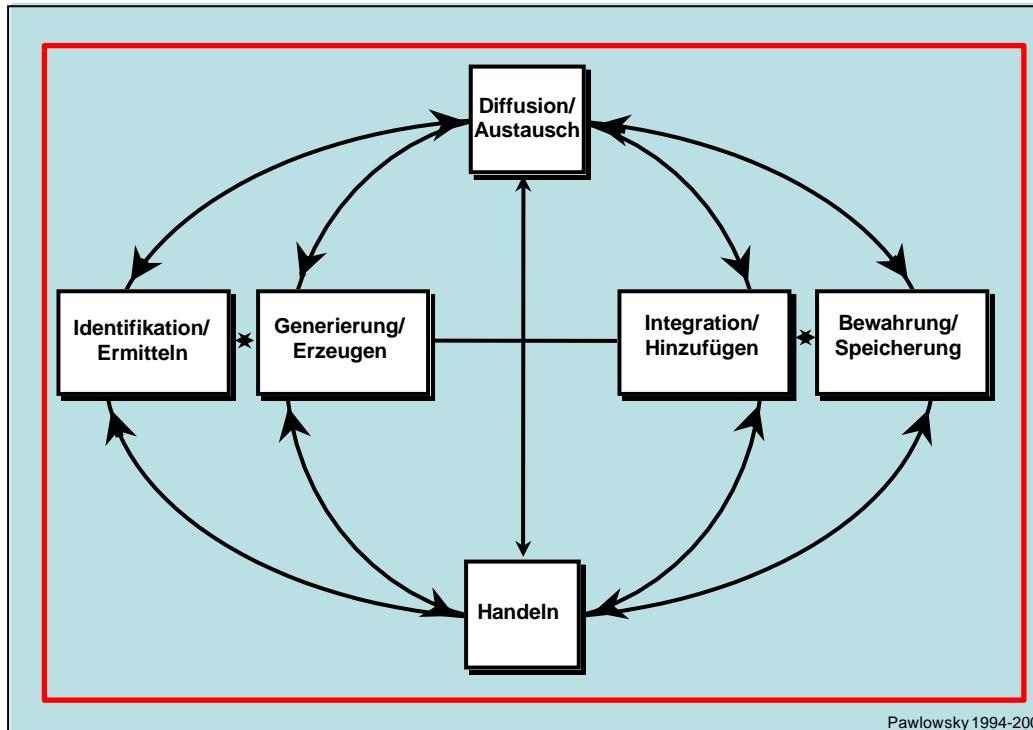


Innovation leader and IC Management





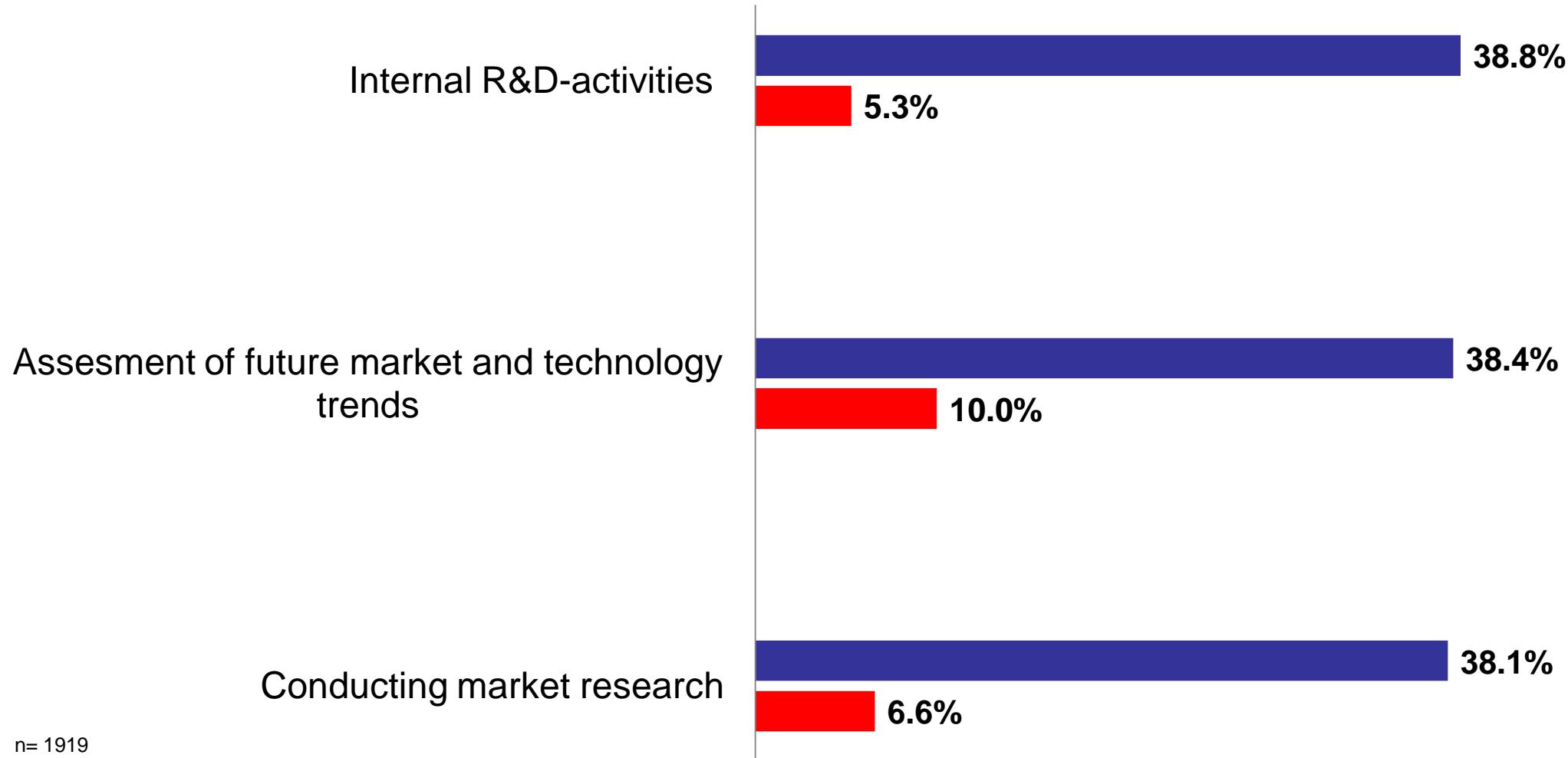
IC Management activites





Top 3 IC Management activities for knowledge identification

■ Innovation leader ■ Innovation lagger



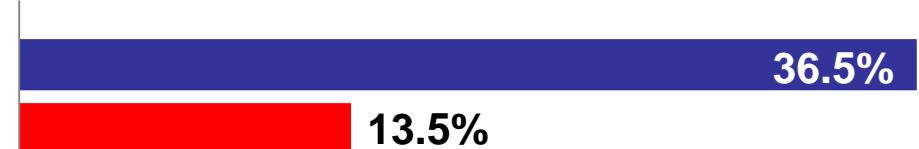
n= 1919



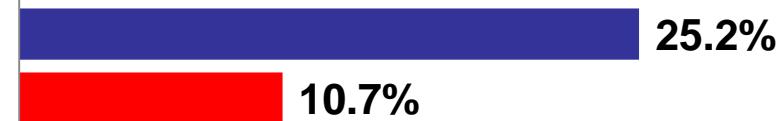
Top 3 IC Management activites for knowledge diffusion

■ Innovation leader ■ Innovation lagger

Exchange through the use of project-databases



Exchange in project teams



Internal knowlege networks and expert groups



n= 1919

How do innovation leaders manage their IC knowledge-retention



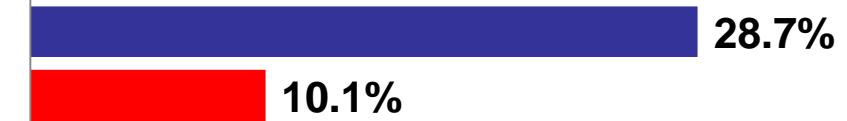
Top 3 IC Management activities for knowledge retention

■ Innovation leader ■ Innovation lagger

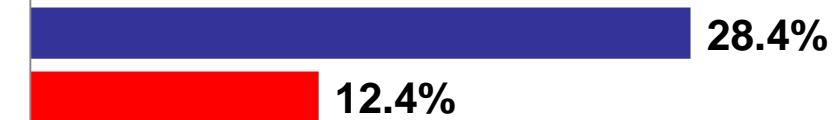
Protection of inventions and efficient performance outputs (patents, property rights etc.)



Documentation of projects and experiences



Documentation of expert- knowledge



n= 1919

How do innovation leaders manage their IC knowledge-exploitation



Top 3 IC Management activities for knowledge exploitation

■ Innovation leader

■ Innovation lagger

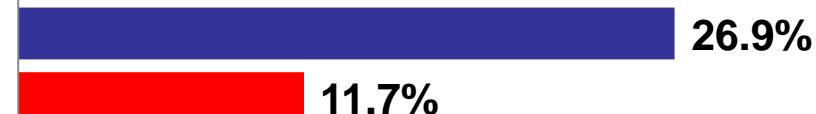
Open Innovation: Using the business environment for own innovation processes



Pursueing product ideas until market maturity

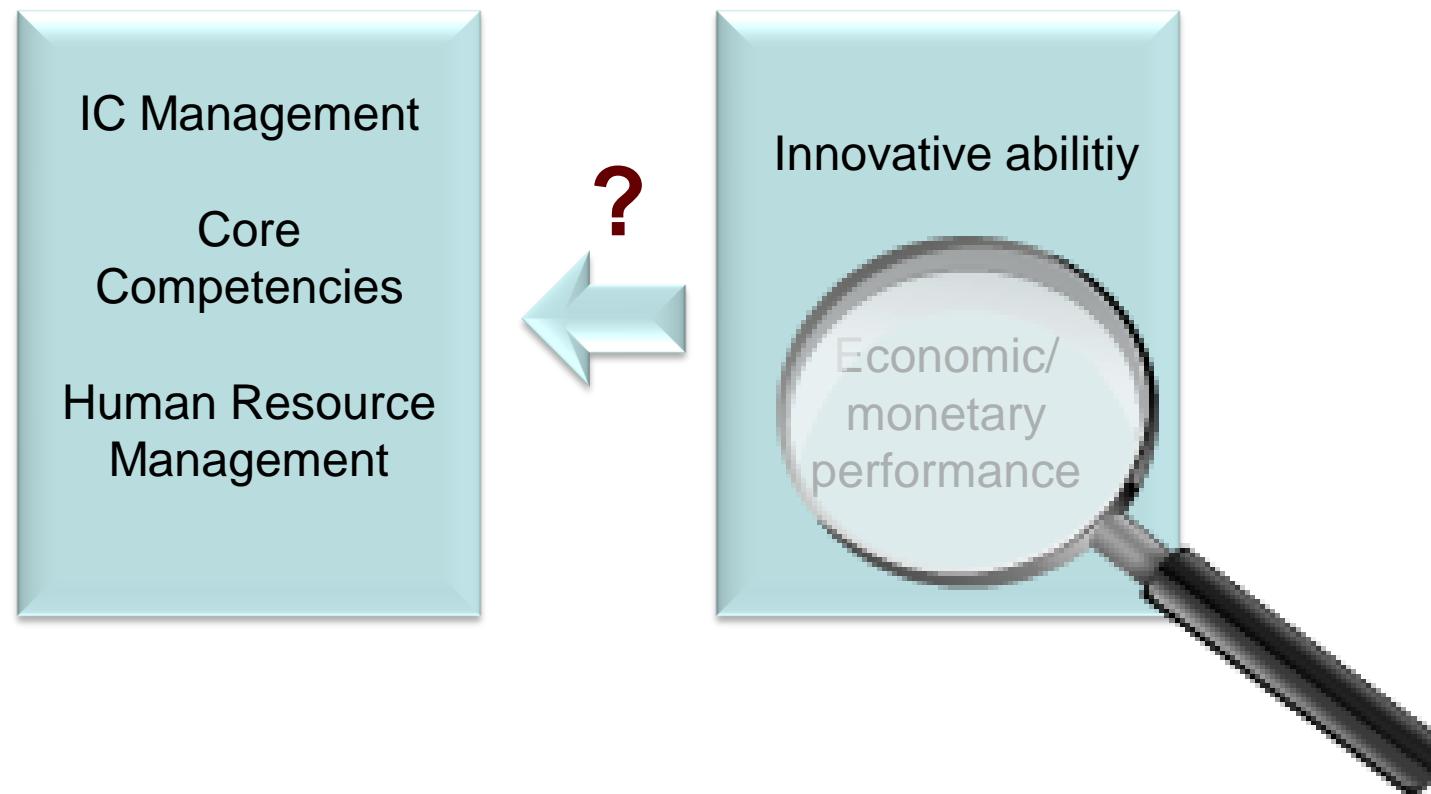


Continuous improvement of processes (CIP)

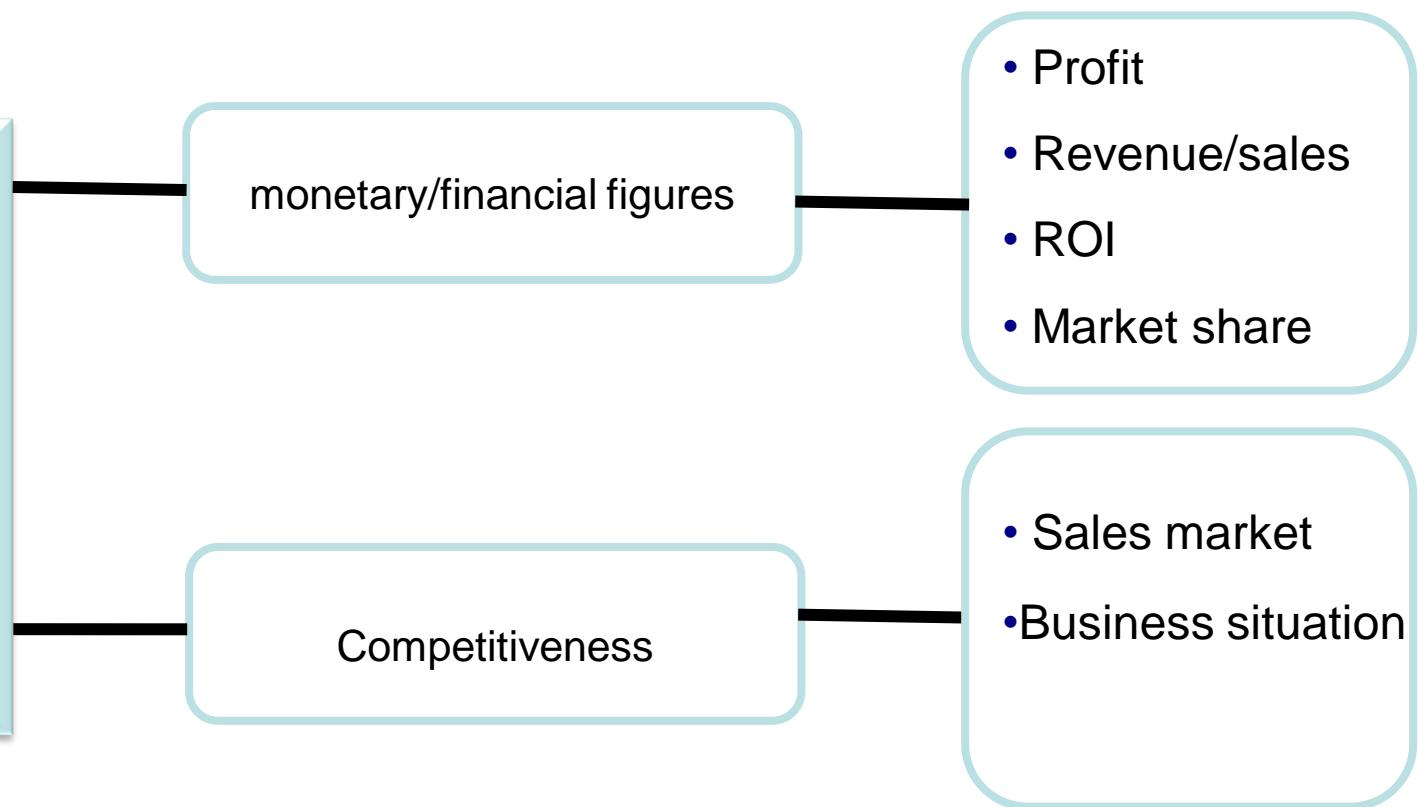


n= 1919

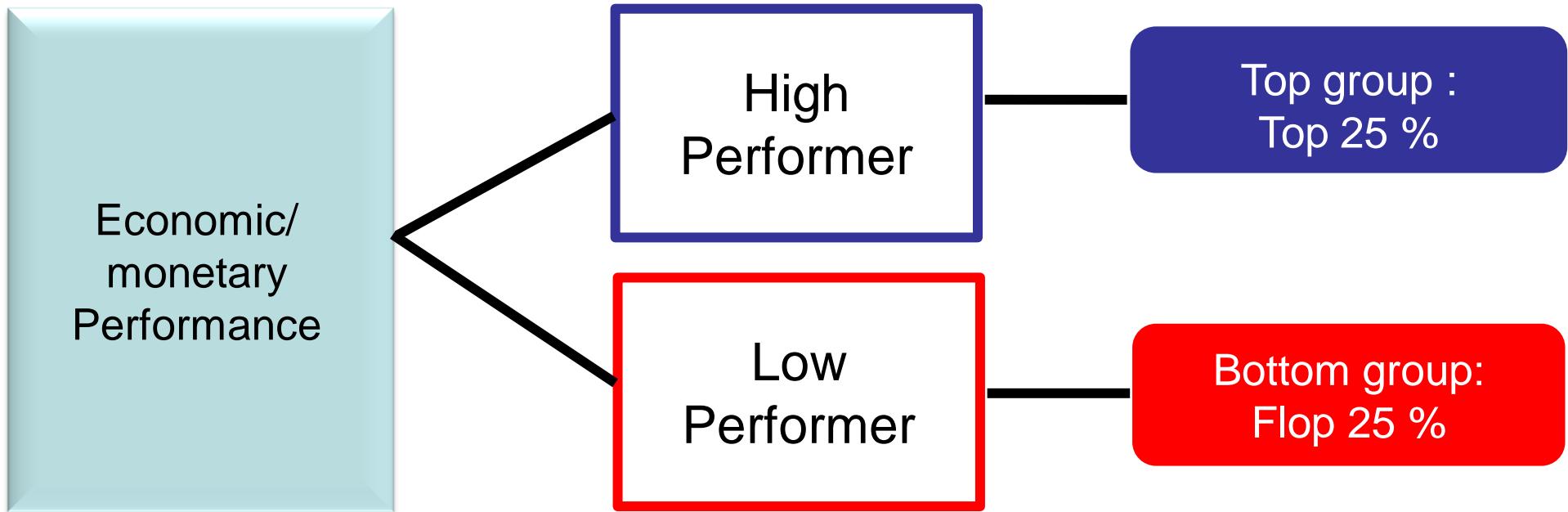
Economic performance?



Economic Performance?

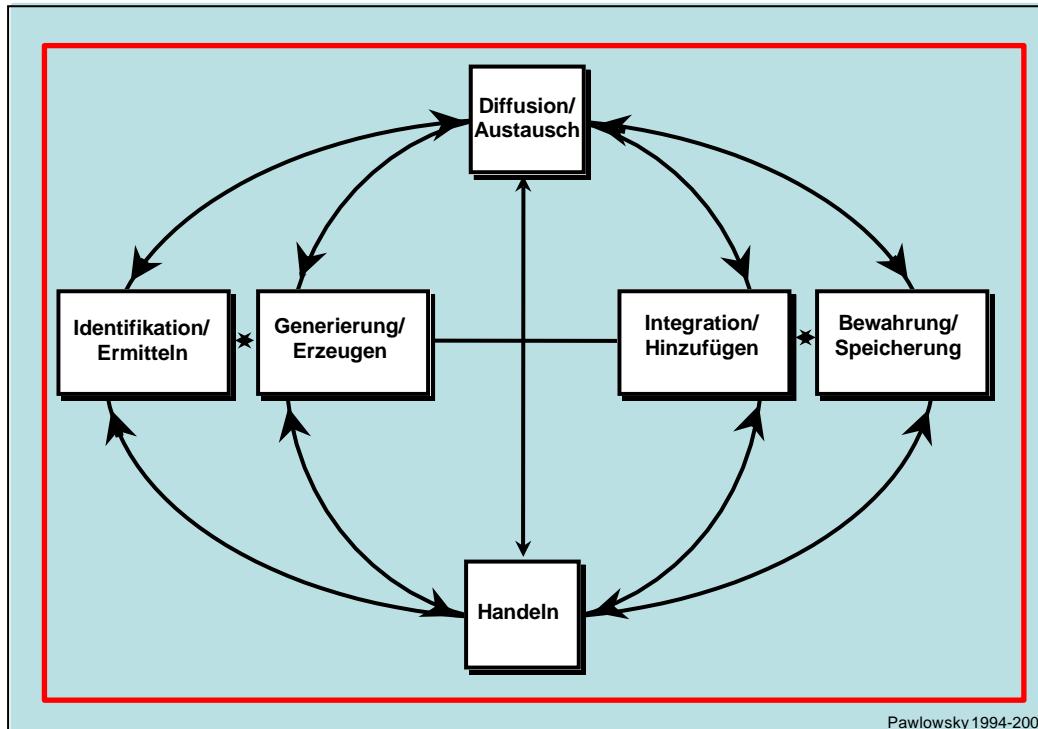


High Performer und Low Performer





IC Management activites



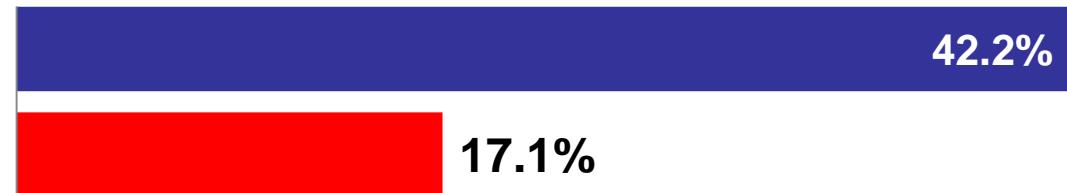
How do High Performer manage their IC knowledge-identification



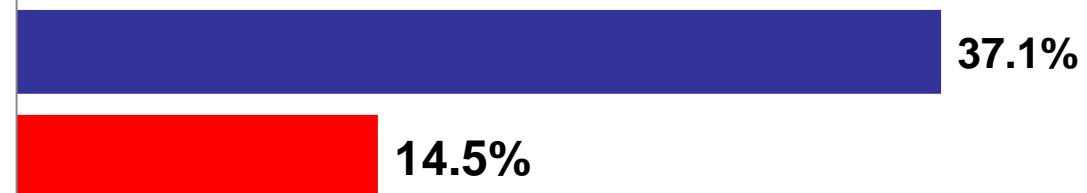
Top 3 IC Management activities for knowledge identification

■ High Performer ■ Low Performer

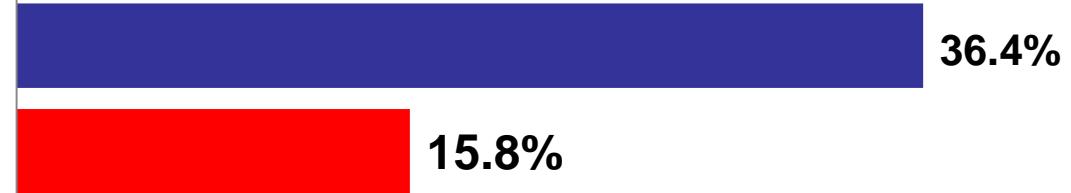
Analysis of successful projects



Identification of employees with special know-how (deep smarts)



Regular employee surveys



n= 1919

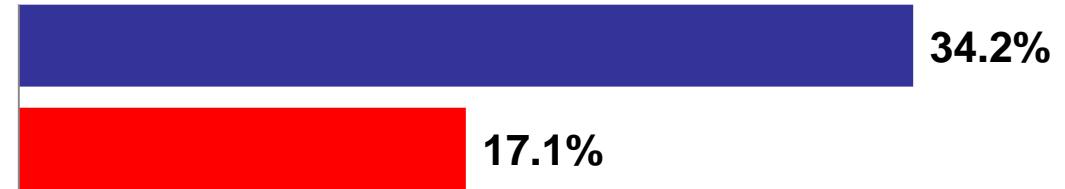
How do High Performer manage their IC knowledge-diffusion



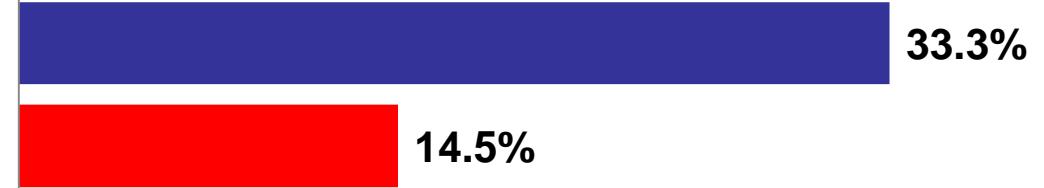
Top 3 IC Management activites for knowledge diffusion

■ High Performer ■ Low Performer

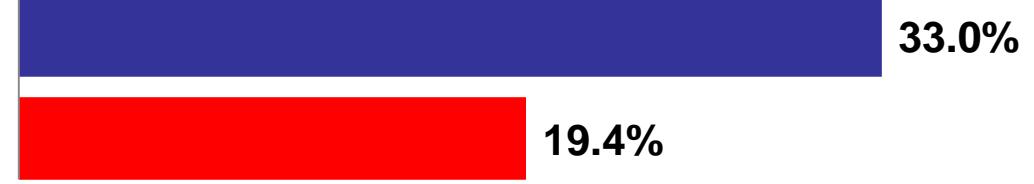
Knowledge exchange between subdivisions and crossfunctional groups



Informal knowledge exchange between employees



Exchange through the use of project databases



n= 1919

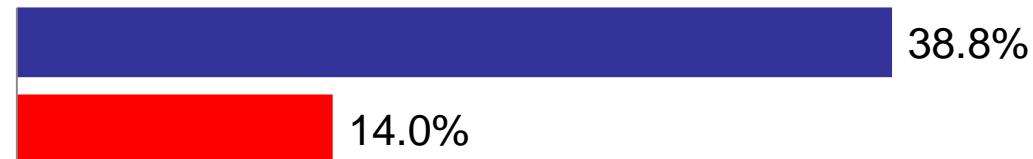
How do High Performer manage their IC knowledge-retention



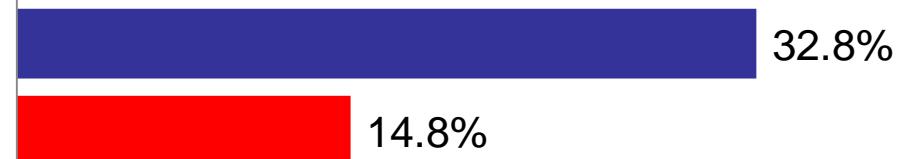
Top 3 IC Management activities for knowledge retention

■ High Performer ■ Low Performer

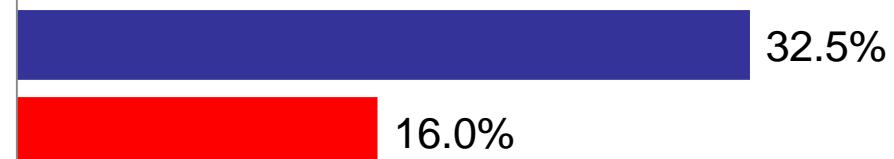
Targeted retention of employees in strategic important positions



Formulation of case studies, success stories and experience reports



Documentation of business processes



n= 1919

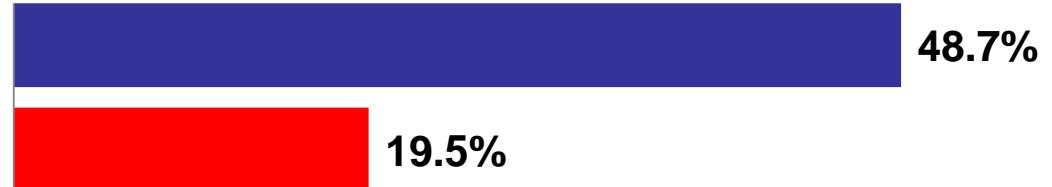
How do High Performer manage their IC knowledge-exploitation



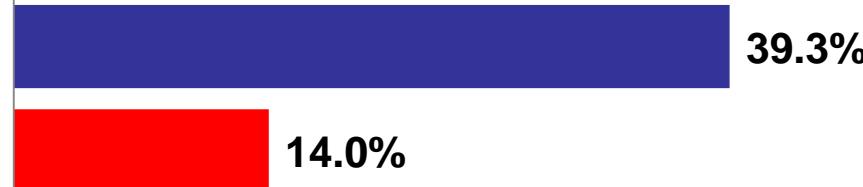
Top 3 IC Management activities for knowlege exploitation

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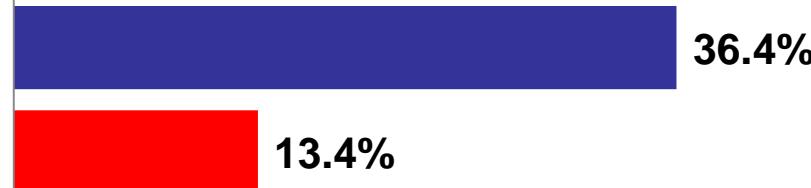
Adjusting procedures and processes due to employees' ideas



Supporting/fostering employees' ideas



Active support/assistance of superiors for applying new skills and exploiting new knowledge

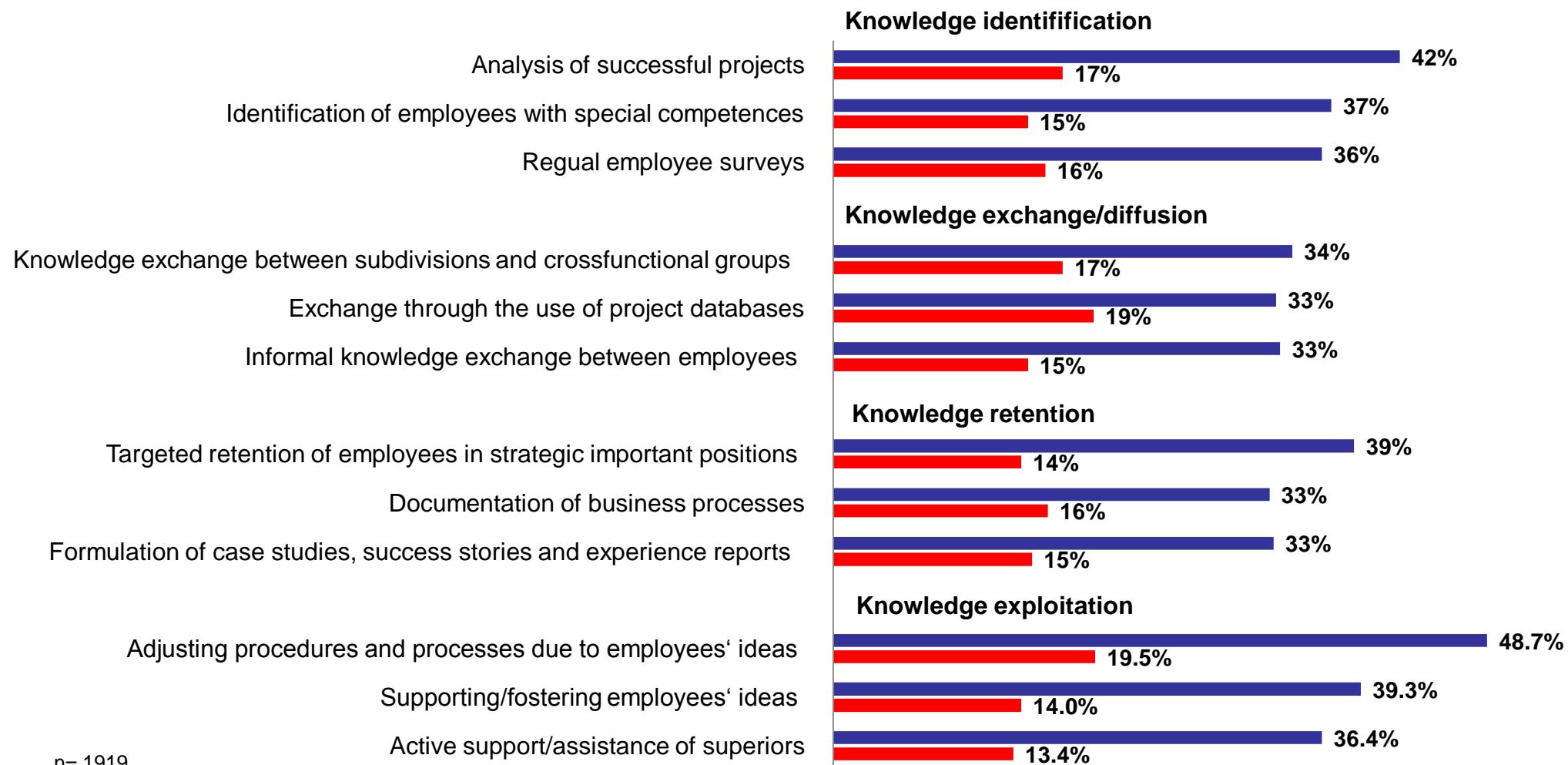


n= 1919

How do High Performer manage their IC overall IC Management activities

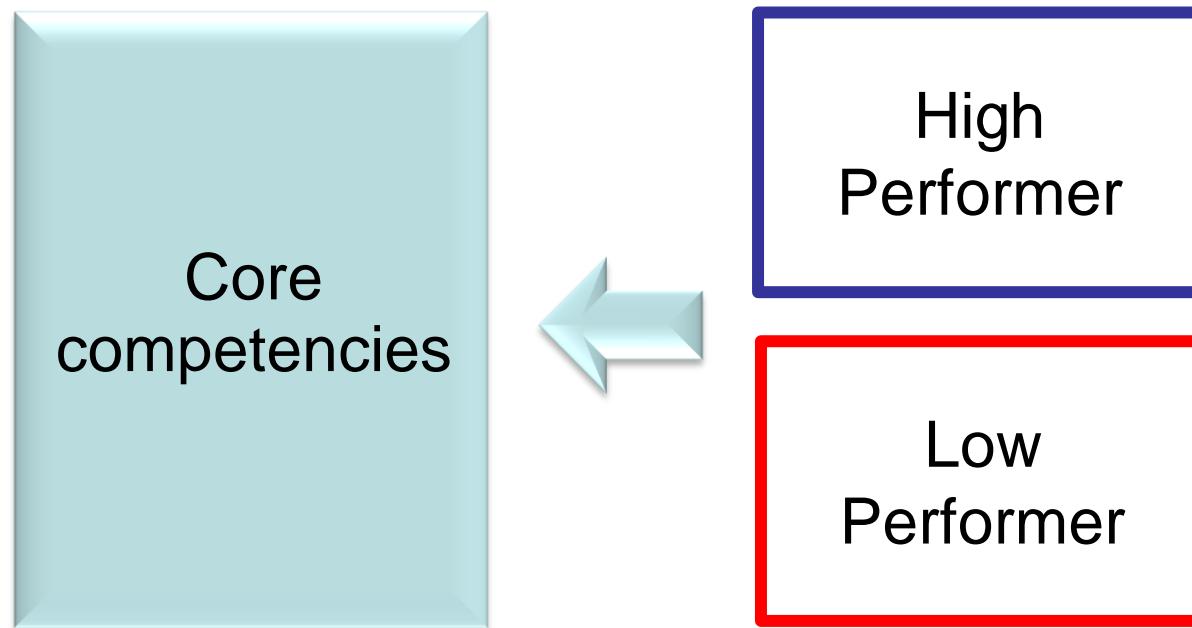


■ High Performer ■ Low Performer



n= 1919

High Performer and Core competencies



Core competencies?



Higher Customer satisfaction (6.20)

Close customer contact (6.22)

Higher Quality (6.10)

Firm flexibility (6.21)

Well established & professional teams (6.2)

Loyalty and motivation of employees (6.7)

Identification/ implementation of customer demands (6.1)

Better Know-how (6.18)

Individual - customized solutions (6.14)

Better employee competences (6.6)

Qualified management/leadership competences (6.29)

Use of corporate knowledge (6.16)

Creative employees(6.23)

Better networks/contacts

Faster development of new offers (6.11)

Technichal maturity of products and services(6.8)

Higher learning abilities of employees (6.3)

Shorter delivery times (6.15)

Cross-divisional working groups(6.24)

More innovative products (6.12)

Professional human resources work (6.28)

Better project management competences (6.25)

Systematic market observation (6.26)

Low production costs (6.13)

Favorable prices (6.9)

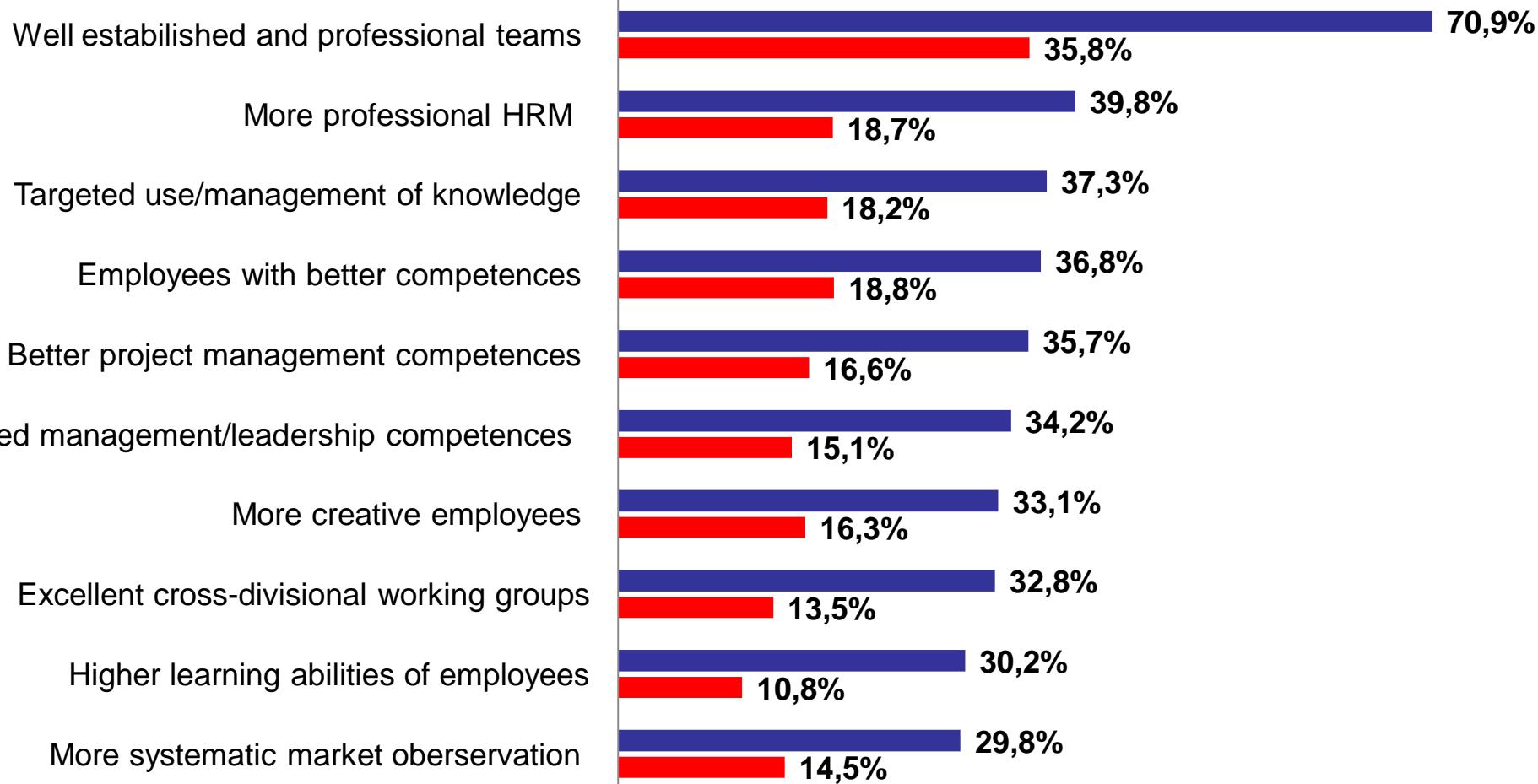
**Competitive advantages compared
to main competitors on a scale ranging from 0 (=
no competitive advantage) to 10 (very strong
competitive advantage) ?**

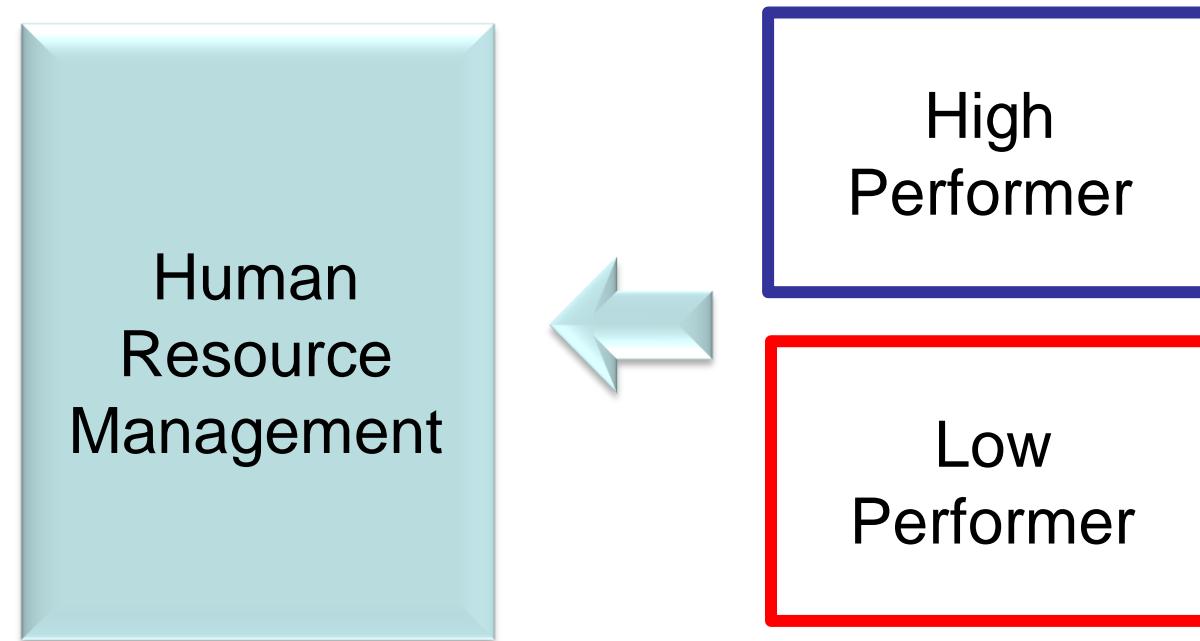
What core competencies do High Performer have?



Top 10 core competencies

■ High Performer ■ Low Performer





How do High Performer manage their Human Capital



■ High Performer ■ Low Performer

Personnel planning is derivated from the business strategy at an early stage



Personnel is treated as a strategic resource



Specific training and development courses for top executives



Career development opportunities for important know-how carriers



Personal reviews to set individual goals



Regular staff evaluations and assessments



Specific measures for personnel development /training



Continuous identification of qualification/skill requirements



Targeted training and recruitment of young talents

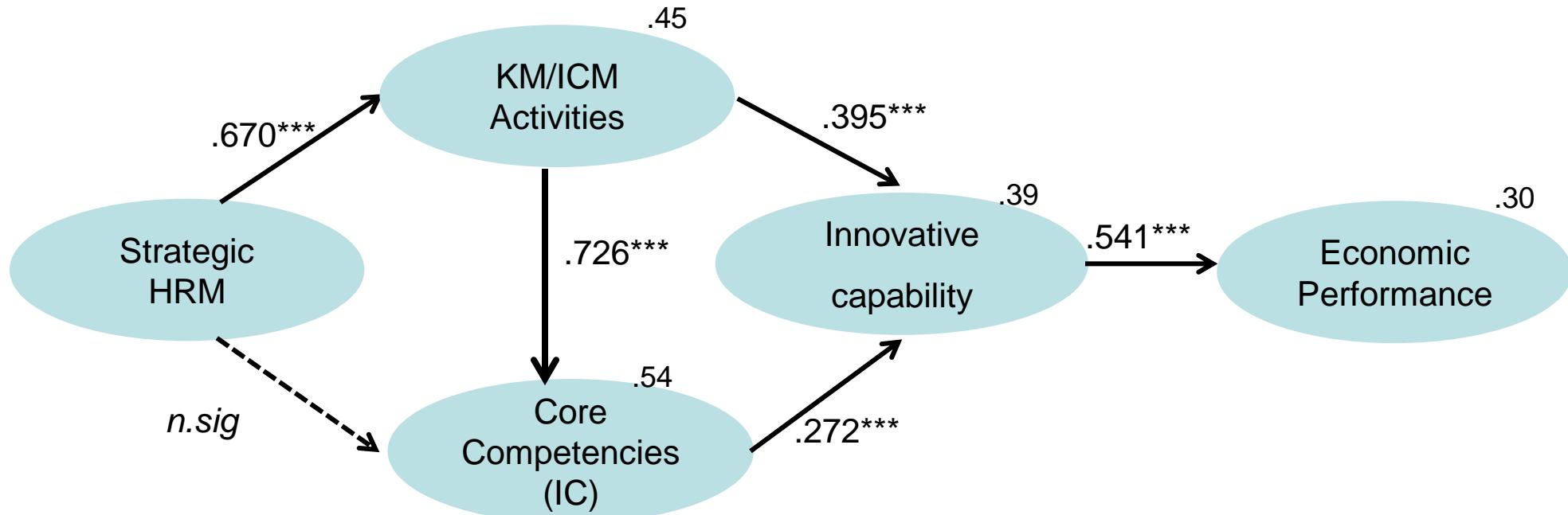


Regular staff development meetings/conversations



n= 1013

Integrative model of IC/KM Management and economic performance (SEM)



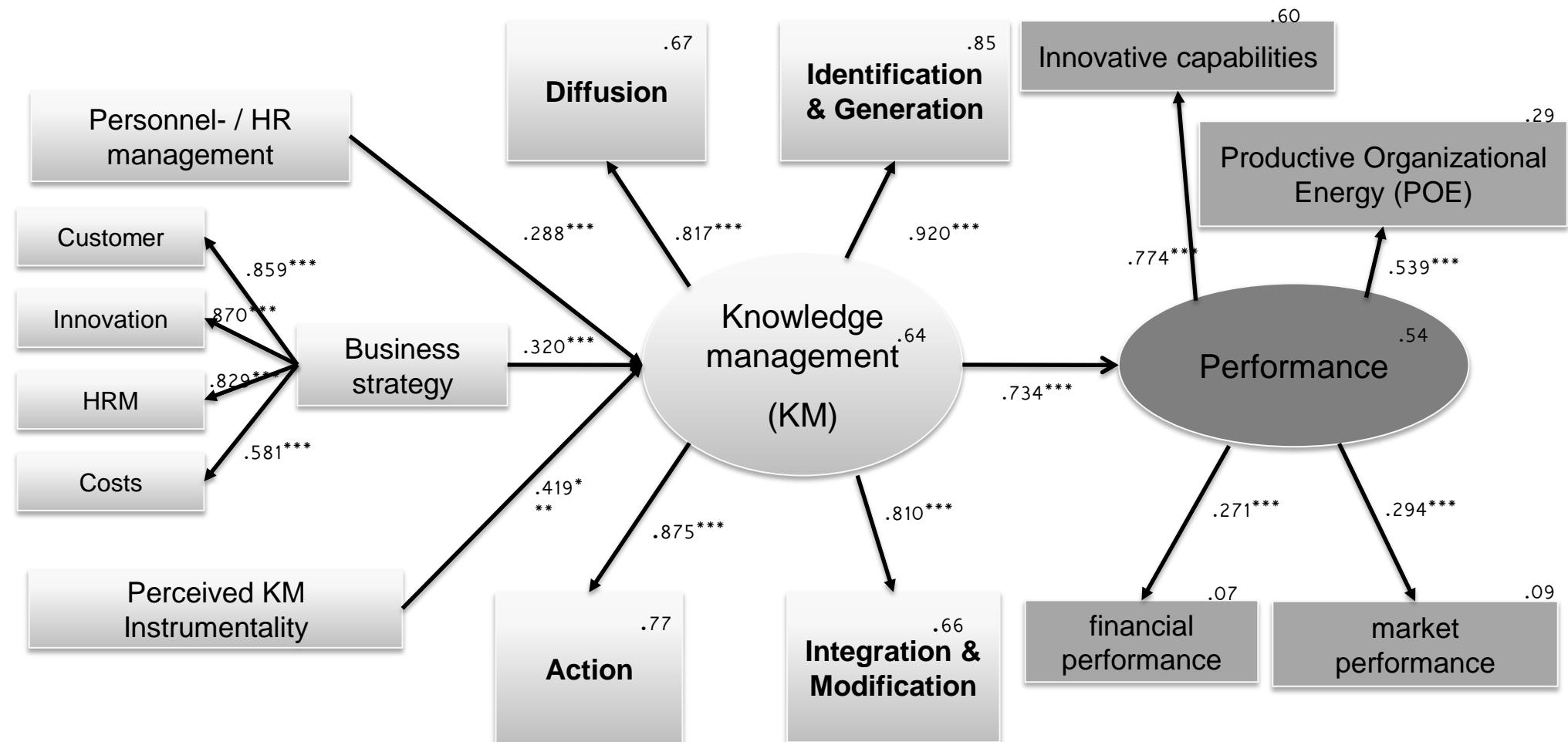
CFI= .933; NFI= .923;
RMSEA= .055

SEM Results

Determinants

KM-Activity

Performance



*** = ,001 n=3401

Literature



Pawlowsky, P.; Gözalan, A. & Schmid, S. (2012). Wie strategisches Wissensmanagement den Unternehmenserfolg fördert. In: PERSONALquarterly - Schwerpunkt Weiterbildung, 02/2012, 64. Jg., S. 30 - 33.

